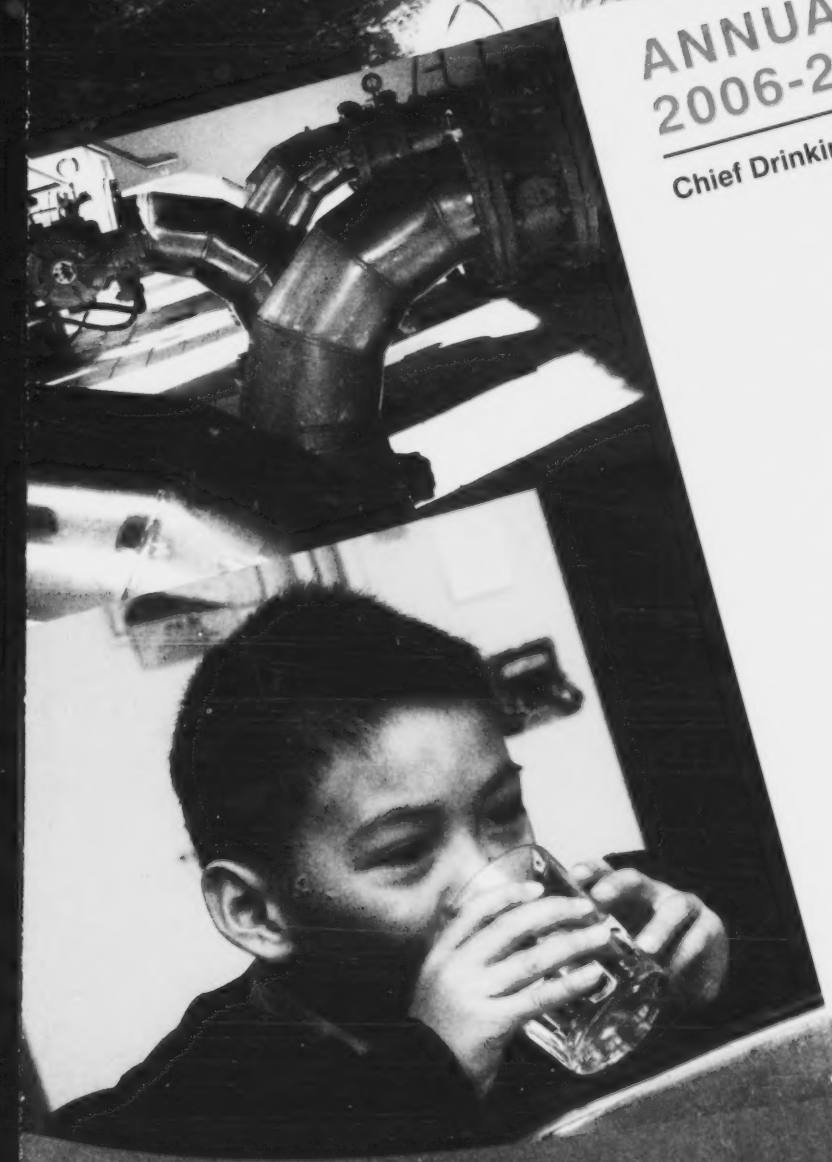
Ministry of the Environment

June 2008

ANNUAL REPORT 2006-2007

Chief Drinking Water Inspector



Protecting our environment.

Ontario

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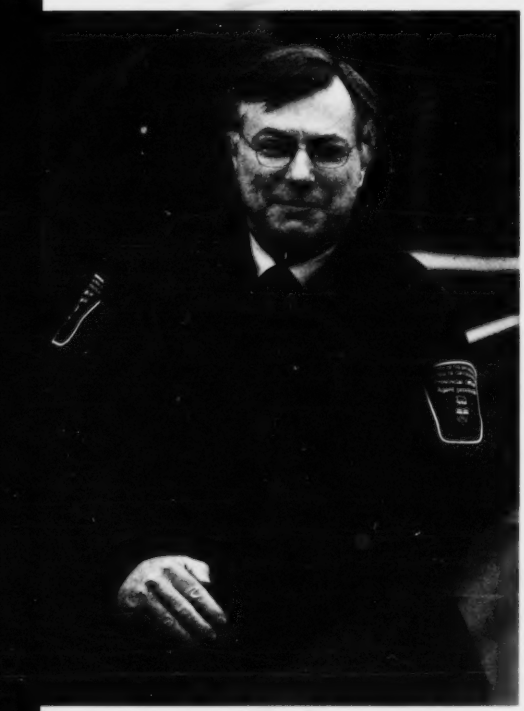


Ontario's Chief Drinking Water Inspector, Keith West

Message from the Chief Drinking Water Inspector

I am pleased to present the third Chief Drinking Water Inspector's annual report, covering the period from April 1, 2006 to March 31, 2007.

During 2006-07, water quality tests from municipal residential drinking water systems showed that 99.83 per cent met Ontario's rigorous, health-based standards. Our safety net allows the people of Ontario to have confidence that the water coming out of their taps is safe and of high quality and that appropriate actions are taken quickly if there is reason to believe that it is not.

The first section of this annual report describes the components of the safety net and how they work together, as well as our efforts during 2006-07 to enhance it.

The Ministry of the Environment takes drinking water protection very seriously. In May 2007, the province took swift, effective action to address the issue of elevated levels of lead in drinking water. The ministry's immediate response showed that Ontario has a very robust drinking water protection system in place. It also showed that our drinking water safety net can identify and resolve drinking water issues in a timely and effective way.

In my view, the information in this report shows that our drinking water safety net works. I believe our commitment to continuous improvement will help drinking water systems across the province enhance their systems' performance.

Throughout 2006-07, we continued to make progress in safeguarding Ontario's drinking water. Notable achievements included:

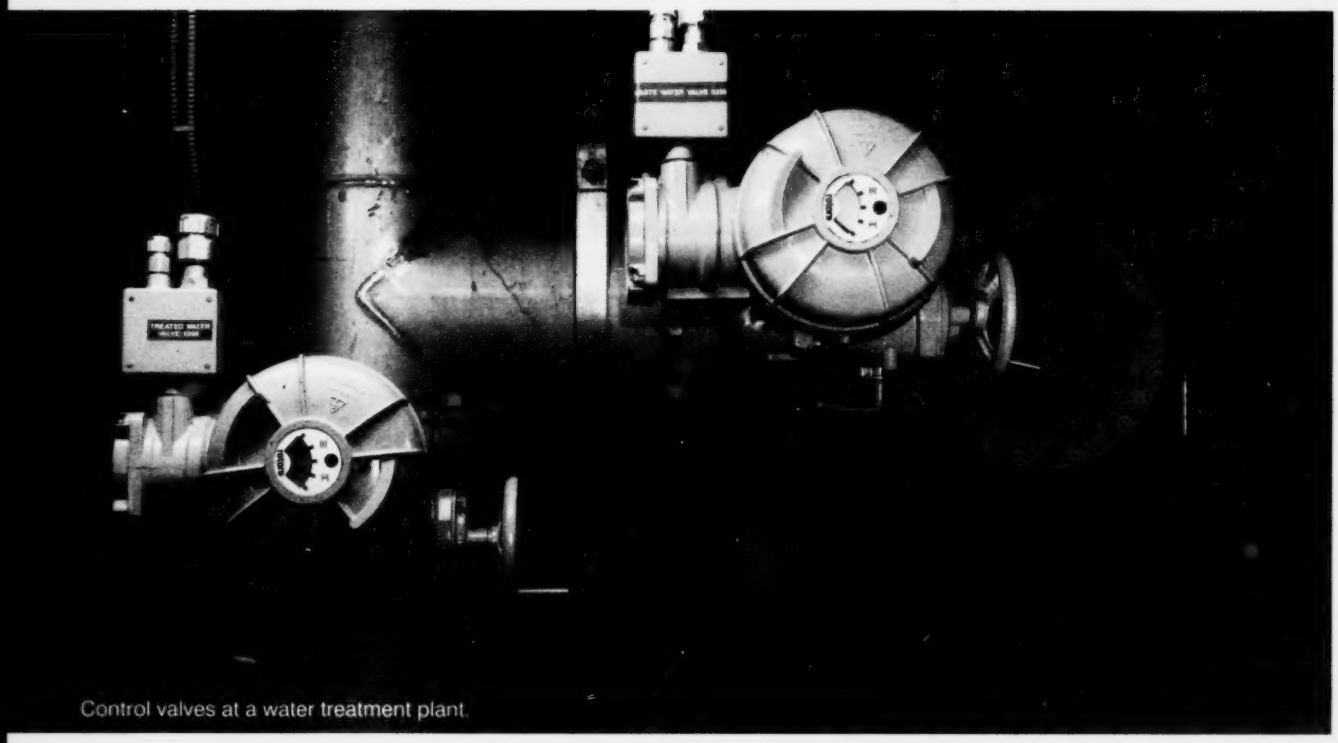
- Proclaiming the Clean Water Act, 2006 that protects drinking water at source (July 3, 2007);

- Establishing requirements for the licensing of municipal residential drinking water systems; and
- Creating the Drinking Water Ontario portal.

Additional details about these achievements can be found in the body of this report.

Public reporting is an important aspect of the drinking water safety net. Providing people with timely, accurate information helps to hold system owners, operators and regulators accountable for meeting their responsibilities. This annual report gives Ontarians important information to help them assess the quality of their drinking water supplies.

As required by the Safe Drinking Water Act, 2002 (SDWA), this annual report looks at the overall performance of Ontario's drinking water systems. It provides detailed statistics on municipal residential drinking water systems. It also provides data from non-municipal year-round residential drinking water systems, and systems that serve schools, day care centres, nursing homes and other facilities designated by legislation.



Control valves at a water treatment plant.

Overall, the operational performance of municipal residential drinking water systems during 2006-07 was very good. I am pleased that Ontario's municipalities continue to deliver high quality drinking water to homes, institutions and businesses in their communities. For the second year in a row, we are providing the details of inspection rating results for municipal residential drinking water systems.

This information helps the ministry identify, compare and assess trends in the inspection data, and better target activities to promote continuous improvement. They also help consumers better understand how well their local drinking water systems are being operated. It's encouraging to note the increase in the number of systems that achieved a 100 per cent inspection rating.

The Ministry of the Environment again fulfilled its responsibilities under Ontario's Compliance and Enforcement Regulation (O. Reg. 242/05). Those responsibilities include inspecting all municipal residential drinking water systems, and licensed drinking water testing laboratories.

Fulfilling these responsibilities represents a considerable accomplishment by ministry staff. I am proud of the vital role the ministry's team plays in maintaining the safety and quality of drinking water.

Informing and educating stakeholders is another important activity and part of the ministry's strategy to promote continuous improvement. This work involves close collaboration between a number of key players, including the Walkerton Clean Water Centre, which delivers high quality education programs to drinking water system owners and operators.

Providing safe, high quality drinking water to people across Ontario is a vital undertaking, and one that requires skill, expertise and effective working relationships among many partners and stakeholders. This collaborative effort includes the Ministry of the Environment and other provincial agencies, local municipalities, conservation authorities, as well as non-governmental organizations, community groups and the public.

I want to thank these partners and stakeholders for their dedication, commitment and hard work during 2006-07. They play an important role in protecting Ontario's drinking water and can be proud of their outstanding work.

Keith West
Chief Drinking Water Inspector
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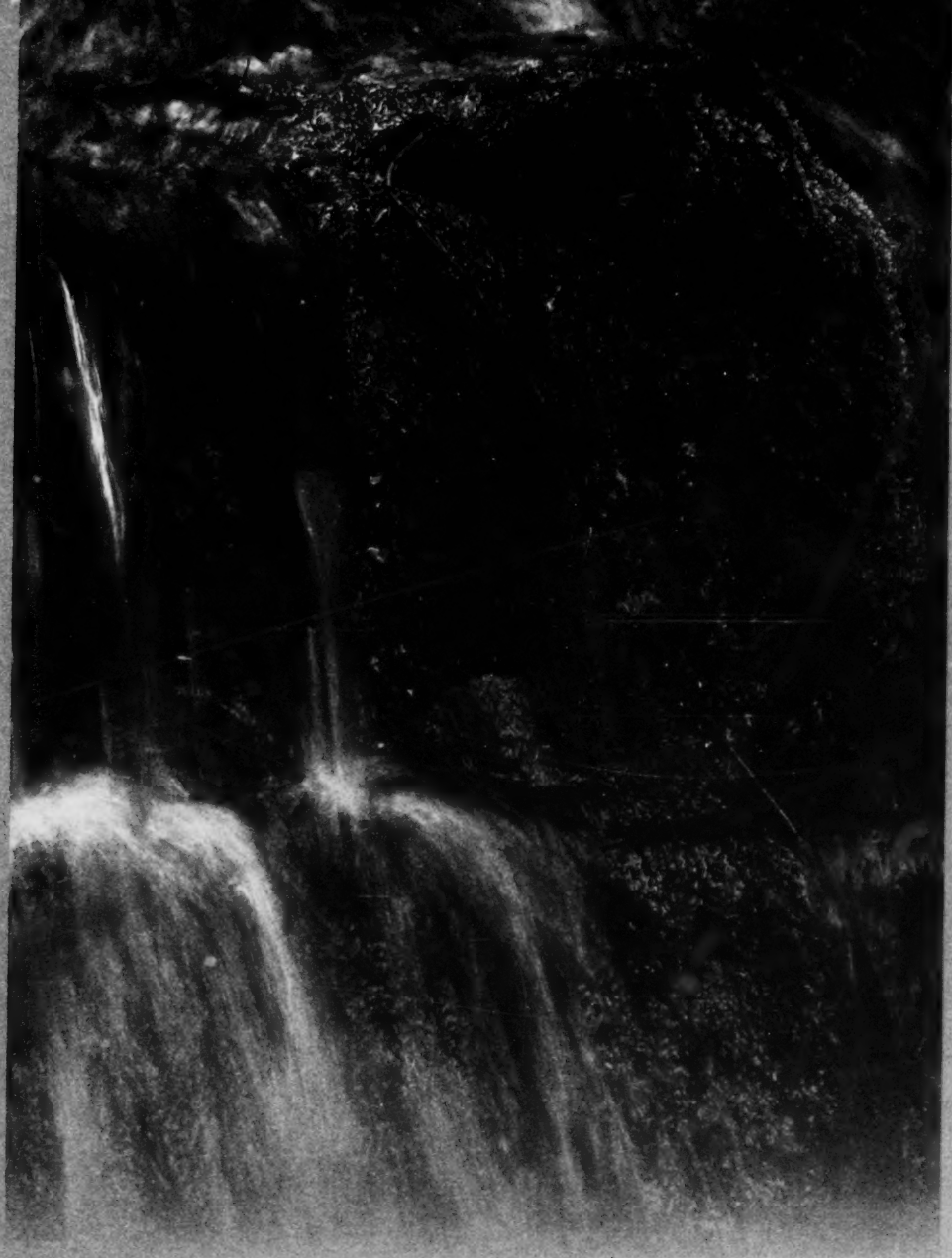
Visit the Drinking Water Ontario portal: www.ontario.ca/drinkingwater



Ontario residents can be confident that their municipal systems are delivering safe, high quality drinking water to their taps.

Protecting our environment. Ontario

Introduction

This is the third annual Chief Drinking Water Inspector's report. It highlights the Ministry of the Environment's actions to protect Ontario's drinking water during the period between April 1, 2006 and March 31, 2007. Publishing the report is a requirement of the Safe Drinking Water Act, 2002 (SDWA).

The Chief Drinking Water Inspector's (CDWI) main responsibility is to make sure that regulated drinking water systems in Ontario meet the province's rigourous health-based standards for protecting drinking water quality. Some of the CDWI's other key responsibilities include:

- Ensuring that legal and regulatory requirements for inspections of drinking water systems and licensed testing laboratories are met;
- Developing and providing training programs to improve the skills and knowledge of drinking water system operators and ministry inspectors; and
- Publishing an annual report on the state of Ontario's drinking water.

This annual report provides an overview of the current state of Ontario's drinking water. It also provides statistics on inspection and water quality test results to help inform the public about the safety and quality of the water they get from their taps. There are some instances where information is provided that goes beyond the fiscal year end of 2006-07.

What's In This Report

Ontario's Drinking Water Safety Net

This section of the report describes the many safeguards in place to protect Ontario's drinking water — measures that are referred to as the safety net. It describes the eight components of the safety net and efforts made to strengthen it during 2006-07.

2006-07 Drinking Water Quality

This section provides 2006-07 data on the quality of the water delivered by municipal residential drinking water systems to consumers. Municipal residential drinking water systems serve more than 80 per cent of Ontario's population and deliver drinking water that is safe and of very high quality.

Also included is water quality information on systems serving health care centres, children's camps, schools and other designated facilities, as well as non-municipal year-round residential drinking water systems.

2006-07 Ministry Inspection Program

The Ministry of the Environment is required by law to perform regular annual inspections of municipal residential drinking water systems and licensed drinking water testing laboratories. These inspections help ensure facilities are consistently meeting Ontario's regulatory requirements and rigourous health-based standards. An overview is provided on how well these facilities performed during 2006-07, based on the results of ministry inspections.

Also included is information on inspection results for systems serving designated facilities and non-municipal year-round residential drinking water systems.

Tapping In

The report contains a number of text boxes called Tapping In. These boxes provide additional details or background information on a wide range of drinking water-related topics. They are also used to highlight some of the key results and statistics from 2006-07.

Looking Ahead

The Ministry of the Environment works closely with municipal partners and many other stakeholders to promote continuous improvements in Ontario's drinking water safety net. "Looking Ahead" covers some key initiatives that would be discussed in the next report.

2006-07 Highlights

Everyone in Ontario is entitled to expect that their drinking water is safe and of high quality. As a result, Ontario has implemented a system of built in safeguards that allow people across the province to have confidence in the safety and quality of their tap water.

Key results of the ministry's drinking water inspection program during 2006-07 include:

- 99.83 per cent of drinking water tests reported by municipal residential drinking water systems met Ontario's rigourous health-based drinking water quality standards. These systems serve more than 80 per cent of the province's population;
- 99.49 per cent of water quality tests reported by systems serving designated facilities (i.e., facilities whose users may be more susceptible to water related health hazards) met provincial standards;
- 99.40 per cent of water quality tests reported by non-municipal year-round residential drinking water systems met provincial standards;
- As required under provincial law, the Ministry of the Environment inspected all municipal residential drinking water systems to monitor compliance at their plants and facilities. Forty per cent of all municipal residential drinking water systems inspection ratings were 100 per cent, and 92 per cent of municipal residential systems had ratings of 90 per cent or better; and
- Ministry staff carried out a total of 126 inspections during 2006-07 at the 57 licensed drinking water testing laboratories, including 57 unannounced inspections. All licensed drinking water testing laboratories underwent at least two provincial inspections during 2006-07.

Other highlights during the 2006-07 year included:

- In October 2006, Ontario's Clean Water Act received Royal Assent and was proclaimed on July 3, 2007. The Act is designed to empower communities to protect their municipal drinking water supplies through collaborative, locally driven, science-based protection plans; and
- A special Ministry of the Environment program was conducted between August 2006 and January 2007 to promote regulatory compliance and the registration of smaller drinking water systems across Ontario in the province's Drinking Water Information System (DWIS). The initiative led to the registration of 115 non-municipal year-round residential drinking water systems, and 62 systems that serve designated facilities, such as nursing homes, day-cares and children's camps (see page 61).

Ontario's drinking water safety net was created to protect public health and increase people's confidence in the quality of their drinking water.

Protecting our environment. Ontario

Ontario's Drinking Water Safety Net

- *Clean Water Act proclaimed on July 3, 2007*
- *4,897 certified drinking water operators in Ontario*
- *Drinking Water Ontario portal launched – gateway to drinking water information*

During 2006-07, the Ministry of the Environment and its partners continued working to strengthen the comprehensive safety net that safeguards drinking water from source to tap.

Ontario's drinking water safety net protects people's health in communities across the province by providing a multi-barrier approach that helps prevent contamination, detects and solves water quality problems, enforces laws and regulations and increases people's awareness of the importance of safe, high quality drinking water.

The safety net was developed to make Ontario's drinking water among the best protected in the world. Its eight components are:

1. Strong legislative and regulatory framework;
2. Timely, reliable testing;
3. Immediate notification and corrective action on Adverse Water Quality Incidents (AWQI);
4. Strong licensing, operator certification and training requirements;
5. Inspections;
6. Enforcement of regulations;
7. Integrated information management; and
8. Delivering education and outreach initiatives and providing public access to information.

This section of the Chief Drinking Water Inspector's Annual Report contains highlights of Ministry of the Environment actions during 2006-07 that increased the strength and effectiveness of the province's drinking water safety net.

1. Strong Legislative and Regulatory Framework

Safe Drinking Water Act Improvements Enhance Accountability and Protect Public Health

After the tragic events in Walkerton in 2000, and Justice O'Connor's groundbreaking reports on its causes and how to address them, the Ontario government proclaimed the Safe Drinking Water Act, 2002 (SDWA). The SDWA provides a consistent set of standards and rules across the province that provides access to safe, high quality, reliable drinking water. The Act protects public health through regulations that cover drinking water systems, testing services, drinking water quality standards, the certification of drinking water system operators and drinking water quality analysts, and compliance and enforcement.

A regulation was developed under the SDWA, that requires all owners of municipal residential drinking water systems to apply for a Municipal Drinking Water Licence from the Ministry of the Environment, allowing them to operate the system. The program was launched with the filing of the Licensing of Municipal Drinking Water Systems Regulation (O. Reg. 188/07), and will be phased in over a five-year period. More details on the municipal licensing initiative are provided later in this report in the section highlighting strengthened licensing, operator certification and training requirements on page 23.

Clean Water Act and Regulations Promoting Local Source Protection

Ontario's Clean Water Act (CWA) received Royal Assent in October 2006 and was proclaimed on July 3, 2007, with the first phase of five regulations. The Act empowers local community Source Protection Committees to safeguard their drinking water sources through collaborative, locally driven, science-based protection plans. The CWA was a main component in meeting twelve of Justice O'Connor's recommendations.

A unique aspect of the Act is that local decision-making will be driven by stakeholder committees, comprised of a diverse and representative selection of stakeholders who will operate by consensus. These diverse groups of watershed residents are made up of one-third municipal representatives, one-third general public and one-third representing economic stakeholders in the watershed, such as farmers and manufacturers.

Under the provisions of the CWA, local Source Protection Committees will take the lead in identifying potential risks to local drinking water sources. They will also identify and plan actions needed to reduce those

risks. Data gathered at the local level will drive the source protection plans and actions, as municipalities, conservation authorities, property owners, farmers, industry, community groups, First Nations and the public work together to meet the common goal of protecting the sources of the drinking water on which they depend.

The first phase of regulations made under the Act defines the following components of the program:

1. Ontario's 40 Source Protection Areas (SPAs), which are grouped into 11 Source Protection Regions (SPRs), with eight remaining stand-alone SPAs;
2. The nature, make-up and operation of 19 Source Protection Committees;
3. The contents of the terms of reference for completing the necessary assessment reports and source protection plans;
4. The timing for the submission of the source protection planning documents; and
5. Miscellaneous provisions.

The 19 Source Protection Committees have formed and are currently moving forward with the development of their terms of reference. These committees are benefiting from several years of data collection and synthesis that were undertaken by Ontario's conservation authorities in preparation for source protection planning.

Over 2008-09, the government is planning to develop and consult on the next phases of regulations, guidance and discussion documents. These materials will provide direction on how to prepare the science-based assessments of threats to drinking water sources, training requirements for staff, and how Source Protection Committees should prepare plans to protect community drinking water sources by 2012.

To support the planning process, the government committed $120 million between 2004 and 2008 to assist municipalities and conservation authorities across Ontario. The funding has helped communities to study and assess their watersheds and to initiate water budgets, to help them better understand the quantity of water available in these watersheds. This ensures that the local watershed plans are based on a firm scientific foundation.

The provincial funding includes $32 million provided by the Ministry of the Environment to municipalities and conservation authorities (CAs) for technical studies, and $66 million provided by the Ministry of Natural Resources for capacity-building and water budget work at the CAs. The capacity funding helped CAs boost their staffing and expertise by an average of 10 per cent. This level of funding is expected to continue until the first round of source protection planning is completed in 2012.

The Clean Water Act empowers communities to safeguard their drinking water sources through collaborative, locally driven, science-based protection plans.

Several unique features of the CWA and the Phase I regulations are noteworthy. First, during the development of the CWA and Phase I regulations, the government commissioned a number of expert and technical panels to provide advice. A Standing Committee of the Legislature heard approximately 60 delegations during hearings around the province. Many amendments were made as a result of consultations and committees. In effect, the Act was built from the ground up through stakeholder input. After the passage of the Act, the posting of the draft regulations on the Environmental Bill of Rights (EBR) Registry in the spring of 2007 resulted in 93 comments from a wide range of sectors, including members of the public.

In addition, five regional sessions were held across the province in the spring of 2007, with representatives from municipalities, conservation authorities, agriculture, health, industry, non-governmental organizations and several provincial ministries—including Agriculture, Food and Rural Affairs, Natural Resources, and Health and Long-Term Care. Three information sessions were also held with First Nations Bands located in proposed source protection areas. These sessions were also attended by federal representatives from Indian and Northern Affairs Canada and Environment Canada. As a result of the feedback gained from the EBR comments and the regional and First Nations Band sessions, the proposed regulations were revised to increase First Nations representation on local Source Protection Committees.

The CWA recognizes the interests and perspectives of Ontario's First Nations with respect to water. Where reserves are located within the source planning areas, First Nations have the opportunity to participate as members of the committee, and may choose to take part in the decision-making process for the watershed outside of their reserves.

First Nations also have the option of requesting that additional drinking water sources, in addition to the mandatory municipal residential systems, be brought into the process, through the relevant First Nation Band Council.

Ministry staff also attended more than 70 conferences, symposia, workshops, technical sessions and education and outreach events to inform the various stakeholders about the CWA, the regulations and Source Protection Program funding.

With the passage of the Act, the Ministry of the Environment also prepared and distributed a series of stakeholder outreach materials to update the public on the CWA and its regulations. The materials included several CWA fact sheets dealing with rural communities, individual property owners, facts about preparing and implementing source protection plans and bringing

communities together for the protection of their drinking water sources. For more information please go to the Drinking Water Ontario portal at www.ontario.ca/drinkingwater.

Communities Get Help for Implementing Early Action to Protect Drinking Water Sources

The CWA is a unique Ontario statute because it stipulates that funding should be provided to various communities to protect drinking water sources. As a result, the government has created a special drinking water source protection support program that provides early action funding to farmers, property owners and businesses, to reduce threats to local drinking water sources. Recommendations for program design were developed by a special advisory panel made up of representatives from agricultural groups, municipalities, non-government organizations and conservation authorities, whose advice was considered in establishing the program.

Of the $7 million available in 2007-08 through the Source Protection Program, $2 million was provided for education and outreach to ensure that the public is aware of the importance of protecting water sources, the terms of the CWA and the opportunities to take advantage of the funding program. A total of $5 million was earmarked for actions such as decommissioning and upgrading of wells, inspecting and upgrading septic systems, installing runoff and erosion control measures and pollution prevention reviews for small and medium-sized businesses.

These funds were available in specific areas near intakes, from conservation authorities, the Ontario Soil and Crop Improvement Association or the ministry.

The funding will continue for the next three years under the Drinking Water Stewardship Program, with an additional $21 million available for early actions to safeguard our drinking water sources.

Swift Government Action Responds to Elevated Lead Levels

In the spring of 2007, the ministry became aware that drinking water tests carried out by the City of London at taps in a number of older homes revealed levels of lead that were higher than Ontario's drinking water quality standard of 10 micrograms per litre. Immediately, the Chief Drinking Water Inspector (CDWI) deployed drinking water inspectors to re-test the water from homes that exhibited high lead test results. Resampling confirmed the initial results, leading the Ministry of the Environment to engage international experts in lead in drinking water and corrosion control. The experts were hired to help the ministry better understand the science behind the elevated lead results, and to assist the City of London in addressing this concern. In addition, the CDWI wrote to all owners of

The Chief Drinking Water Inspector immediately deployed additional inspectors to re-test the water.

Tapping in

Flushing Your Water System Helps Reduce Potential Exposure to Lead

To reduce the potential for elevated levels of lead in drinking water from taps in buildings where plumbing was installed prior to 1990 across Ontario, the government passed a new regulation that requires schools and day nursery facilities to conduct annual tests for lead. In addition, any of these facilities that were built before 1990 are now required to flush their drinking water plumbing every day.

People who live in older residences or suspect that their plumbing may have components or solder containing lead are also advised to flush their drinking water plumbing regularly—particularly if the taps haven't been turned on for several hours—to eliminate any lead that may have built up in the water standing in the pipes.

If your home was built between the mid-1950s and 1989, it is unlikely to have lead pipes or service lines (any certified plumber or home inspector can identify lead pipes.). However, there could still be lead in some fixtures or the solder used to connect your pipes (the use of lead solder in drinking water plumbing was banned in 1989).

If you know or suspect that you live in a house with lead service lines, lead solder or brass fixtures containing lead, the ministry recommends that you take the following precautions:

- Before drinking the water, you should run the water from the drinking water tap(s) for at least five minutes if the water has been standing in the pipes for six hours or more;
- Use cold, flushed water for drinking and preparing food. Water from the hot water tap should not be consumed, since heated water may contain higher lead levels; and
- You may want to have your tap water tested. You can call your municipality to see if they have a program to test consumers' water for lead. You can also have your water tested by one of Ontario's licensed laboratories.

If the tests of your drinking water indicate lead levels that are below the provincial standard of 10 micrograms per litre, it is recommended that you run your water for at least five minutes after an extended period of non-use.

If your water has been shown to have lead levels above the provincial standard, children under six years of age and pregnant women should use an approved filtration system to reduce lead or use bottled water. This recommendation is particularly important for infants whose formula is prepared by adding tap water to liquid concentrate or powder. **For more information on drinking water filters, please see www.nsf.org/certified/dwtu**

For more information on lead in drinking water, please visit the Drinking Water Ontario portal at: www.ontario.ca/drinkingwater

municipal residential drinking water systems, asking them to voluntarily sample their drinking water to assure themselves that they did not see elevated levels of lead in tap samples after flushing. On May 23, 2007, the CDWI ordered 36 municipalities across the province to each undertake precautionary testing in 20 older homes likely to contain lead plumbing, to get a snapshot of the issue across the province. The results showed that 16 of the 36 municipalities across the province found at least one result that exceeded the lead standard, even after flushing the taps.

The province announced its Lead Action Plan on June 7, 2007, in response to these test results and the advice provided by the Ontario Drinking Water Advisory Council, and the Chief Drinking Water Inspector in consultation with the Chief Medical Officer of Health. The plan is intended to reduce the risk of lead exposure for the general population, particularly young children and pregnant women, who are most vulnerable to the effects of lead. The Lead Action Plan includes the following components:

- The Schools, Private Schools and Day Nurseries Regulation (O. Reg. 243/07), which requires day nurseries with plumbing installed before 1990, as well as all public and private schools, to flush their drinking water plumbing every day and to test their drinking water once every year for lead;

- A regulation amending the Drinking Water Systems Regulation (O. Reg. 170/03) that requires municipal residential and non-municipal year-round residential systems to regularly test tap water samples for lead at a specified number of homes and non-residential buildings, to notify home and facility owners of the results of their tap water tests and to take corrective action in any systems where lead levels exceeding the provincial standard are discovered. The testing focuses on older parts of the community where there is a greater likelihood of encountering homes with lead service pipes or lead solder in plumbing. These requirements came into force on July 26, 2007;
- Providing financial assistance (up to $100) to help low-income pregnant women and parents with infants and young children (aged six and under), living in an area which the municipality deems to be at risk for elevated lead levels (greater than 10 µg/L), with the cost of on-tap water filters which reduce the level of lead in drinking water;
- Working with municipalities to provide expert advice on how to adjust the water chemistry in their systems so that the water will accumulate less lead;
- Encouraging municipalities to conduct public education outreach campaigns on lead in drinking water, such as initiatives to provide information on lead in their drinking water in their customers' water bills; and
- Identifying best practices for municipalities to help make the replacement of lead lines more affordable for homeowners, by offering programs such as targeted loans and on-bill financing.

As part of the province-wide action plan to educate owners and operating authorities of municipal and non-municipal residential drinking water systems, operators of schools, private schools and day nurseries as well as the public, the Ministry of the Environment undertook 20 outreach sessions across the province. The ministry also prepared plain language guides on the regulatory requirements, including "at a glance" flushing and sampling posters for schools, private schools and day nurseries. The ministry also sent out letters to the regulated community and attended several meetings with various stakeholders to discuss implementation issues. As well, the ministry posted information on lead in drinking water, including how to have your water tested for lead, the health effects of lead, and options for reducing lead in drinking water on its Web site (www.ene.gov.on.ca/en/water/tapwater/index.php) and Drinking Water Ontario portal (www.ontario.ca/drinkingwater). The press also played a key role in bringing the issue of elevated lead in drinking water to the public's attention, and in raising awareness of Ontario's Lead Action Plan.

Tapping in

How Does Lead Get Into Drinking Water?

Lead poses a number of health concerns, particularly for young children, whose bodies are still developing and can absorb lead more easily than adults, and for pregnant women. Long-term exposure to lead levels above the provincial standard may contribute to the impairment of learning capacity and intellectual development.

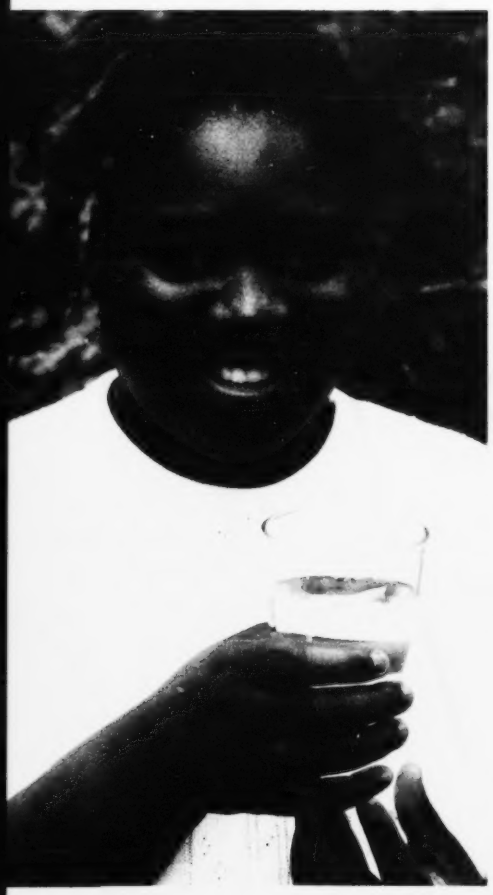
While Ontario's surface water and ground water generally do not contain lead, the concentrations are usually extremely low if it is present. Lead that has leached into drinking water can come from a variety of sources, including lead service lines, lead-based solder, and brass fixtures with a high lead content.

In situations where the plumbing system includes lead or lead-containing materials, and the water is even slightly corrosive, extended contact between water and the plumbing components can cause leaching of lead from the components into the water. When the drinking water taps are turned on, the standing water, which then flows from the pipes, may have accumulated lead levels that are higher than Ontario's regulated standard.

The next Chief Drinking Water Inspector's Annual Report will provide information on the ministry's significant progress on implementing the province's Lead Action Plan. In the interim, information updates would be posted on the portal.

Canada-Ontario Agreement Respecting the Great Lakes Ecosystem

The latest Canada-Ontario Agreement Respecting the Great Lakes Ecosystem (COA), signed by the federal and provincial governments, came into effect June 25, 2007.



For the first time, the agreement contains commitments from the Canadian and Ontario governments to protect drinking water sources, in recognition of the fact that the Great Lakes Basin provides drinking water for most people in Ontario.

In Annex 3 of the COA, Goal 6 identifies the development and implementation of locally-created, science-based source protection plans to identify and mitigate risks to drinking water sources in the Great Lakes Basin as a priority. The two governments made specific commitments to identify and assess the potential risks to Great Lakes Basin drinking water sources, to undertake early actions to address risks, and to develop knowledge and understanding of water quality and quantity issues of concern to the Great Lakes as drinking water sources. This work includes:

- Consideration of protecting drinking water sources when setting priorities for Canada and Ontario infrastructure funding programs;
- Collaboratively strengthening the protection of Great Lakes as sources of drinking water through existing bi-national mechanisms;
- Supporting improved collaboration on Great Lakes drinking water source protection research; and
- Providing Source Protection Committees with access to provincial and federal data sets, studies and expertise on environmental monitoring and science concerning source water quality and quantity.

Amendments to Regulation 903 Improve Safeguards for Wells

About three million people in Ontario rely on groundwater from wells as their primary source of drinking water. Ontario currently has about 600,000 drinking water wells, and between 15,000 and 20,000 new wells are constructed every year.

Ontario's Wells Regulation, Regulation 903 under the Ontario Water Resources Act, 1990 (OWRA), has an important role in protecting drinking water by setting out minimum standards for all types of wells. The standards cover where wells can be located, how they must be built, how they should be disinfected, how water wells must be tagged and reported, and how they should be maintained and abandoned. The regulation also sets out licensing criteria for well contractors and technicians.

Major amendments to Ontario's Wells Regulation came into effect on December 31, 2007. The amendments will improve safeguards for all types of wells across Ontario, with changes that include new disinfection procedures, the creation of a new class (Class 5) of Well Technician's Licence, new licence exemptions, more flexible provisions for abandoning wells, and a

number of technical amendments to further improve the regulation's effectiveness.

Public Health Units to Get New Role In Drinking Water Protection

The government will transfer legislative responsibility for drinking water safety in non-residential and seasonal residential facilities–such as places of worship, community halls, bed and breakfast establishments and tourist outfitters–from the Ministry of the Environment to the Ministry of Health and Long-Term Care and Ontario's public health units.

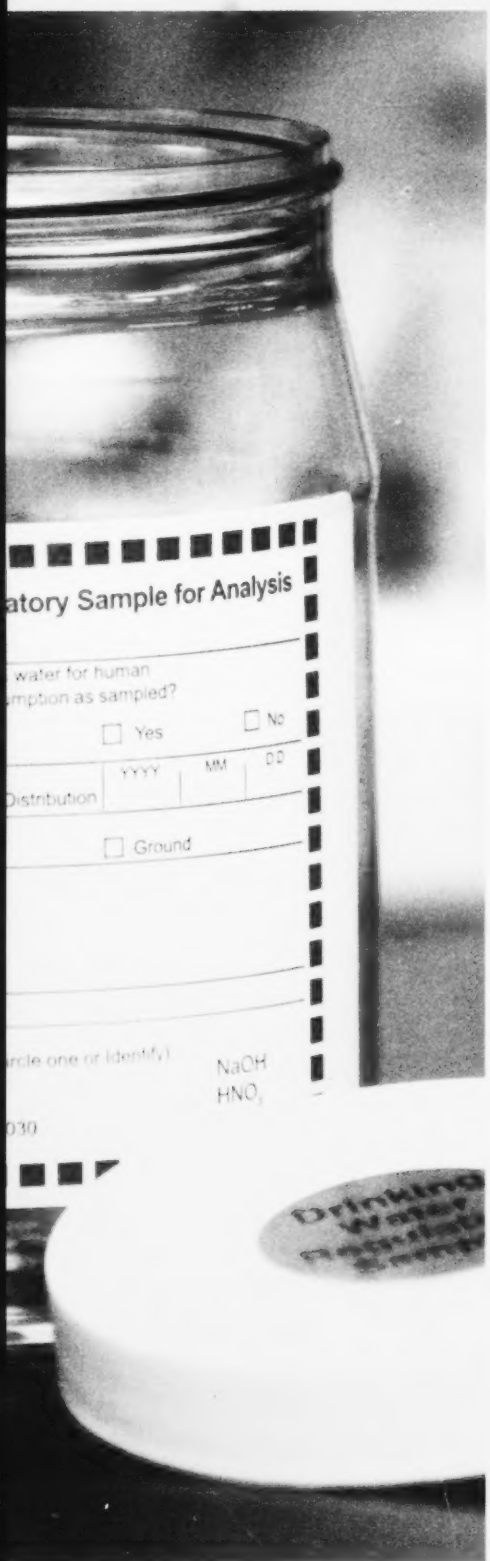
In June 2007, the Health System Improvements Act, 2007 was passed, making changes to the SDWA and to the Ontario Water Resources Act, 1990 as well as to the Health Protection and Promotion Act, 1990. The changes are related to the transfer of legislative authority over certain small drinking water systems, and once proclaimed, will facilitate the transfer of responsibility from the Ministry of the Environment to public health units for five categories of non-residential and seasonal residential drinking water systems. The Ministry of the Environment will continue to be responsible for municipal residential (large, small) and non-municipal year-round residential systems, as well as systems that serve designated facilities including daycare facilities, and children's camps, after the other five categories are transferred to the Ministry of Health and Long Term Care and public health units for oversight.

Transferring legislative responsibility for these drinking water systems will coincide with the implementation of a new, risk based, site-specific approach, under the direction of the province's public health units. With this approach, public health inspectors will conduct risk assessments for small drinking water systems. Based on the outcome of each assessment, the local public health unit will establish any additional requirements that must be met, beyond the minimum requirements. The minimum requirements would be established in a new risk assessment regulation under the Health Protection and Promotion Act, 1990.

With this approach, public health inspectors will conduct risk assessments for small drinking water systems.

The approach is expected to make the process of safeguarding drinking water more workable for smaller drinking water system owners. The changes were developed after extensive consultations with drinking water experts and system owners and operators.

Technical training on small drinking water systems for the Public Health Units' inspectors will be provided by the Walkerton Clean Water Centre (see Tapping In on page 23).



2. Timely, Reliable Testing

Timely, reliable testing is an important component of the drinking water safety net. During 2006-07, the quality of Ontario's drinking water continued to be carefully monitored against stringent, health-based standards through regular testing carried out by laboratories licensed by the Ministry of the Environment. The results of these tests in 2006-07 are summarized in the Water Quality section, beginning on page 33, of this annual report. **A list of licensed laboratories can be found at www.ene.gov.on.ca/en/water/sdwa/licensedlabs.php.**

3. Immediate Notification and Corrective Action on Adverse Water Quality Incidents

As part of the multi-barrier system that protects our drinking water, the SDWA requires every adverse water quality incident (AWQI) to be reported immediately, and corrective action to be taken right away.

An AWQI may signal a potential health threat to a community's drinking water system. When an AWQI is reported, Ontario's SDWA requires that immediate notification be given to the respective system's operating authority or owner, the local Medical Officer of Health and the Ministry of the Environment's Spills Action Centre.

Immediate action must be taken to address the problem, which can range from taking more drinking water samples and flushing the system's lines to the local Medical Officer of Health issuing a Boil Water Advisory or a Drinking Water Advisory. A Boil Water Advisory advises the community to boil or disinfect water before consumption. It is designed to make water safe to drink when there is a health risk through contamination that can be corrected by boiling or disinfecting the water. A Drinking Water Advisory is issued when a drinking water problem cannot be corrected simply by boiling the water or through disinfection. Under a Drinking Water Advisory, consumers are advised to use another source of drinking water until further notice.

As of March 31, 2007, there were ongoing Boil Water Advisories and/or Drinking Water Advisories in place for at least 12 continuous months for six municipal residential drinking water systems. The Ministry of the Environment is working with the owners and operators of these systems to bring them into compliance with Ontario Regulation 170/03. Since the end of March 2007, one of these drinking water systems has been completely replaced with a new one that meets all the province's regulatory requirements.

4. Strong Licensing, Operator Certification and Training

Operator Certification Strengthens Drinking Water Safety Net

One of the fundamental principles of Ontario's drinking water safety net is that safe drinking water and public health go hand in hand—and that both goals are closely linked to the skills, knowledge and abilities of people who work in drinking water treatment plants and testing laboratories. As a result, the province has implemented rigorous certification requirements for drinking water system operators which include the most comprehensive training in North America.

Under the SDWA, every municipal residential drinking water system and every non-municipal year-round residential system must have a certified operator. The same rule applies to large non-residential systems (municipal and non-municipal) that serve designated facilities, and other regulated systems that meet certain criteria.

All new operators of municipal drinking water systems are required to complete a comprehensive two-week training program. See Table 1 for the number of certificates issued to certified operators. Once certified, operators are required to renew their certificates

Ontario has established the most stringent requirements for operator training and certification in North America.

TABLE 1: Number of Certificates for Certified Operators Issued (as of March 31, 2007)

Number of Certificates Issued (cumulative to March 31, 2007)								
System Type	**OIT***	**Class 1****	**Class 2****	**Class 3****	**Class 4****	**2006-07 Total**	**2005-06 Total**	**2004-05 Total**
Water Treatment: system collects, produces, treats and distributes drinking water	2,144	901	605	341	339	4,330	4,917	4,827
Water Distribution (includes Water Distribution and Supply): system distributes water only or distributes and treats water only by disinfection	2,372	1,196	1,376	374	218	5,536	6,295	5,588
Limited Surface/Ground Water***	-	-	-	-	-	263	170	N/A
					Total Certificates	**10,129**	**11,382**	**10,415**

* Operator-in-training certificate

** Drinking water systems are classified on a scale of 1 to 4 based on operational complexity and population served. Correspondingly, operators are certified from Class 1 to 4 based on education, training, examination, and experience.

*** A Limited System certificate is the minimum requirement for operating the following categories of systems: small municipal residential (groundwater), non-municipal year-round residential, large non-municipal non-residential serving a designated facility, and large municipal non-residential serving a designated facility.

A drinking water inspector training session.

every three years. To do this, they must complete between 20 and 50 hours of annual training, depending on the complexity of the water system they operate. The mandatory training requirement—which includes health-related instruction on emerging pathogens, new protection measures and new water treatment-related technologies—is designed to ensure that operators continuously build and upgrade their knowledge and skills throughout their entire careers.

As of March 31, 2007, there were 10,129 active drinking water certificates in Ontario, held by 4,897 drinking water operators. Of these certificates, 4,330 were Water Treatment certificates, 5,536 were Water Distribution certificates, and 263 were Limited Surface/Ground Water certificates.

Training Operators of Smaller Systems

Operators of small non-residential drinking water systems (municipal and non-municipal) that serve designated facilities—and non-municipal seasonal residential systems that serve designated facilities—are not subject to Ontario's certification regulations. Such systems can be

Tapping in

Community Colleges Add Entry-Level Drinking Water Operator Course to Curriculum

Ontario's drinking water safety net requires all municipal residential drinking water systems to have trained, certified operators—and the province's colleges of applied arts and technology are partnering with the Ministry of the Environment and the Walkerton Clean Water Centre (WCWC) to help meet that need.

Early in 2007, the Ministry of the Environment invited community colleges to make the Entry-Level Course (ELC) for drinking water system operators part of the curriculum in their Environmental Technician Programs. As of September 2007, eight colleges have entered into agreements with the Ministry of the Environment to deliver the training.

In September 2007, Thunder Bay's Confederation College became the first college in Ontario to begin offering the ELC. Several other community colleges will begin offering this course in 2008—including Centennial, Canadore, Durham, Sault, Sir Sandford Fleming, Mohawk and Northern.

Developed by the Ministry of the Environment, the ELC is also offered at the WCWC, and is required for certification as a Class 1 Operator. The course gives students a basic understanding of water characteristics and pathogens, treatment and distribution processes and Ontario's laws and regulations on water quality.

As part of the new curriculum offering, college students taking the Environmental Technician Program will also write the Operator-in-Training (OIT) certification exams. Together, the ELC and OIT are designed to give new drinking water system operators the tools they need to move quickly and productively into the workplace. The WCWC is further supporting the colleges by establishing co-op placements for students taking the ELC course and OIT exams.

Integrating the ELC and OIT into the college curriculum will broaden career options for graduates and is expected to help fast-track them into a career in water treatment. The collaborative efforts of the Ministry of the Environment, the WCWC and the community colleges will also help to ensure that this vital training is available and accessible throughout the province, and that Ontario has a long-term supply of conscientious, knowledgeable people to keep our drinking water safe.

Ontario has established the most stringent requirements for operator training and certification in North America to protect Ontario's drinking water and Ontario's community colleges are instrumental in providing the top-quality training that's needed to meet those requirements.

operated by anyone who has completed a Ministry of the Environment approved course on operating and maintaining drinking water systems within the previous three years, who is then considered a "trained person." In 2006-07, a total of 1,259 participants took the distance learning course that qualifies them for this designation. The Walkerton Clean Water Centre coordinates this training for the ministry (see Tapping In box on this page).

Municipal Licensing Program

One of the key innovative measures that the Ministry of the Environment has taken to strengthen Ontario's drinking water safety net is the establishment of the Municipal Drinking Water Licensing Program, which will require all owners of municipal residential drinking water systems to incorporate a drinking water quality management approach at their facilities. Quality management systems have been widely adopted in many industrial sectors, and with the introduction of the Licensing Program, Ontario will take the North American lead in implementing quality management for drinking water systems. This quality management approach for Ontario's municipal residential drinking water systems will be achieved through the implementation of quality management systems, based on Ontario's Drinking Water Quality Management Standard (DWQMS).

To obtain the licence, the Ministry of the Environment will require owners to have the following elements in place for their drinking water system(s):

- A Drinking Water Works Permit, which is required in order to establish or alter a drinking water system;
- A Permit to Take Water, which provides the required provincial permission to take the water;

Tapping in

Walkerton Clean Water Centre Delivers High Quality Education Programs

The Walkerton Clean Water Centre (WCWC) plays a key role in delivering the Government of Ontario's commitment to strengthening Ontario's drinking water systems, by helping to train those responsible for delivering safe, high quality drinking water across the province. Governed by a Board of Directors, the WCWC's goals include:

- Coordinating and delivering an array of technical training courses for owners, operators and operating authorities of Ontario's drinking water systems;
- Demonstrating leading-edge technology for drinking water treatment and distribution;
- Advising the Minister of the Environment on research needs related to safe drinking water; and
- Providing information, education and outreach to owners, operators and operating authorities of drinking water systems and to the general public.

The WCWC's primary role is to ensure that the best available training, education and information are accessible and available to the operators, operating authorities and owners of Ontario's drinking water systems. Besides providing high-quality training, the WCWC also has a mandate to demonstrate leading-edge drinking water technology, participate in research on issues related to safe drinking water, and provide information to all those interested in safe drinking water.

One of the Ministry of the Environment's most important partners in delivering certification and training programs, the WCWC manages the delivery of two mandatory, Ministry of the Environment-approved courses: the Entry-Level Drinking Water Operator course for operators-in-training, and the Preventing Waterborne Illnesses course, which drinking water operators are required to take every three years. The WCWC also administers the Operation of Small Drinking Water Systems distance learning course for non-municipal operators. Technical training on small systems for the Public Health Units' inspectors will be provided by the WCWC. **(For more information see: www.wcwc.ca)**.

- A Financial Plan, which will contain financial projections and must be approved by the owner;
- An Operational Plan, which documents the quality management system the owner and operating authority must have in place; and
- An Accredited Operating Authority, which confirms third-party verification that the quality management system conforms to Ontario's Drinking Water Quality Management Standard.

In addition, prior to a licence being issued, the Director, appointed by the Minister of the Environment under the SDWA, must be satisfied that the system will be operated in accordance with the requirements of the SDWA and the proposed conditions of the licence.

The Licensing of Municipal Drinking Water Systems Regulation (O. Reg. 188/07) outlines the date on or by which owners and operating authorities must apply for a licence and drinking water works permit, and submit an operational plan to the ministry. The regulation contains schedules that stipulate when owners must submit these materials to the ministry, and is phased in from January 2009 to June 2010. It begins with large municipalities (greater than 100,000 people) followed by medium sized municipalities (1,001 to 99,999 people) geographically (southwest to southeast to the north) and finally small sized municipalities (under 1,001 people) geographically (southwest to southeast to the north). The order of these submissions provides those municipalities with a larger capacity to proceed first. It is anticipated that all municipal residential drinking water systems will have received a licence and full accreditation by 2012.

The DWQMS is the standard on which the operational plan for a municipal residential drinking water system is written. The operational plan will document an

Tapping in

Careers in Water

For young people looking to build a meaningful, rewarding career, there are many water related employment opportunities available in Ontario.

There are interesting jobs that involve working with water in its natural environment—for example, by checking water levels and testing water quality in Ontario's lakes, rivers, streams and underground wells. There are also rewarding careers in the hydroelectricity sector, in outdoor recreation or in well design and construction. As well, provincial conservation officers and environmental officers work to enforce the laws that protect our natural resources and the environment.

Other water related careers include environmental policy makers and lawyers, environmental communications specialists, water resource specialists, hydrologists and municipal planners. These occupations are likely to prove both satisfying and rewarding, and they also make an important contribution to our society's well being.

Environmental engineers and engineering consultants help design and maintain our water and sewage treatment plants and municipal water collection and distribution systems. Every municipal residential drinking water treatment plant in Ontario requires a certified operator, which is one of the most important responsibilities in any community. To obtain certification, drinking water system operators need a great deal of training—which is usually provided by people who work as environmental trainers and licensors.

Working as an environmental scientist, a drinking water testing laboratory technician or a provincial drinking water inspector means playing a vital role in helping to make sure that the water delivered to people's homes is safe and of high quality.

Everyone in Ontario needs safe, high quality water—and that makes water a great resource on which to build a career.

For more information about employment opportunities related to water, please visit the Drinking Water Ontario portal at www.ontario.ca/drinkingwater.

owner and operating authority's quality management system. Through an audit process, the DWQMS will also be the basis for the accreditation of these operating authorities.

In July of 2007, the Ministry of the Environment posted a policy decision notice to the Environmental Bill of Right's Registry regarding the Director's Directions under the Municipal Drinking Water Licensing Program. This document provides information to owners and operating authorities respecting the preparation and content of operational plans and record retention and public disclosure of operational plans.

The DWQMS is a "made-in-Ontario" management system standard that was carefully crafted over a period of more than three years. The standard was developed by the Ministry of the Environment, in partnership with the province's drinking water sector stakeholders, including municipal owners and operating authorities, advocacy groups (such as the Consumers' Council of Canada, Pollution Probe and the Canadian Environmental Law Association), Health Canada and a number of water related associations, including the Ontario Water Works Association (OWWA), the Ontario Municipal Water Association (OMWA) and the Canadian Water and Wastewater Association.

During 2006-07, the Ministry of the Environment prepared and issued detailed guidance documents and fact sheets for municipalities and drinking water system owners and operators to assist them with the implementation of the licensing program. As well, the Ministry of the Environment, in partnership with the OMWA and the OWWA, co-sponsored a series of 11 one-day workshops in the fall of 2007 that were held throughout the province to educate owners and operating authorities about municipal licensing.

The DWQMS specifies minimum requirements for a quality management system to meet specific objectives, including:

The DWQMS is a "made-in-Ontario" management system standard that was carefully crafted over a period of more than three years.

Provincial law requires the ministry to inspect every municipal residential drinking water system in Ontario at least once a year, and requires that at least one out of every three inspections be unannounced.

- Assisting the operating authority's ability to consistently produce and/or deliver drinking water that meets applicable legislative, regulatory and owner requirements; and

- Enhancing consumer protection by effectively applying and continually improving the quality management system.

The Municipal Drinking Water Licensing Program will also assist owners and operators of municipal residential drinking water systems in meeting the statutory standard of care set out in Section 19 of the Safe Drinking Water Act (see the Tapping In box below).

Tapping In

The Statutory Standard of Care

Section 19 of the SDWA, Statutory Standard of Care, was proclaimed in May 2007 and will come into force on January 1, 2013.

Section 19 of the SDWA expressly extends responsibility to people with decision making authority over the municipal drinking water system. Depending on specific circumstances and individual responsibilities, this responsibility may extend to individual municipal councillors and other municipal officials and employees.

Anyone to whom the standard of care applies is expected to exercise the level of care, diligence and skill in respect of a municipal drinking water system that a reasonably prudent person would be expected to exercise in a similar situation. They also must act honestly, competently and with integrity, with a view to ensuring the protection and safety of the users of the municipal drinking water system.

The Ministry of the Environment has introduced the Municipal Drinking Water Licensing Program that, when fully implemented by 2013, will assist owners and operators of municipal residential drinking water systems in meeting the statutory standard of care.

The program includes requirements to develop and implement appropriate management and controls over drinking water systems.

5. Inspections

Another vital component of Ontario's drinking water safety net is the Ministry of the Environment's comprehensive program to inspect municipal residential drinking water systems and licensed drinking water testing laboratories. The Ministry of the Environment's inspectors work to provide Ontarians with confidence that their drinking water systems and testing laboratories are meeting provincial requirements. They also work closely with municipal residential drinking water system owners and operators to achieve the goal of 100 per cent regulatory compliance.

To inspect a municipal residential drinking water system, the Ministry of the Environment inspectors follow a protocol with about 140 separate regulatory requirements, providing a complete checklist of source-to-tap protections. The protocol is tailored to the type of drinking water system being inspected. The inspections include visiting the system's water sources, assessing the effectiveness of the treatment and distribution systems, checking the system's water quality monitoring procedures, sampling the water for audit purposes, confirming staff certification and evaluating overall system management and operational practices.

Working with system owners and operators, the ministry's inspectors often discuss best management

practices and compliance issues, using a teamwork approach to water protection that helps build mutual trust and encourages continuous improvement. Provincial law requires the ministry to inspect every municipal residential drinking water system in Ontario at least once a year, and requires that at least one out of every three inspections be unannounced.

This annual report marks the second year that the Ministry of the Environment has published inspection rating results for municipal residential drinking water systems. This allows the Ministry of the Environment to report on compliance and non-compliance trends in municipal residential drinking water systems throughout the province. The inspection rating results for 2006-07 are discussed in the Inspection Program section of this report on page 55 and are provided in Appendix 1 starting on page 78.

Addressing Non-Compliance Issues

When a Ministry of the Environment inspection reveals that a municipal residential drinking water system is not in compliance with provincial regulations, inspectors can take a range of progressively tougher actions, including:

- Promoting compliance and providing direction on minor violations that have no actual or potential impact on human health;
- Issuing a Provincial Officer's Order that requires the system operator to take corrective action by a specific deadline;
- Issuing a preventative order that outlines the steps to be taken to prevent possible future non-compliance and/or violations; and
- Referring the matter to the Ministry of the Environment's Investigations and Enforcement Branch (IEB), which may lead to the laying of formal charges.

Tapping In

Public Can Trigger a Drinking Water Investigation

As of June 1, 2005, members of the public can request an investigation of an alleged contravention of the Safe Drinking Water Act, 2002 or any of its regulations or instruments (e.g., a Certificate of Approval) by any person or entity. This public enforcement right is established by the Compliance and Enforcement Regulation (O. Reg. 242/05).

Under the regulation, the Chief Drinking Water Inspector's Annual Report must include a summary of the receipt, handling and disposition of applications under this provision.

No applications for an investigation were received from the public during 2006-07.

An inspector checking an on-line chlorine analyzer with an operator at a drinking water plant.

There were 29 convictions of drinking water systems & licensed laboratories in 2006-07 and collective fines of $253,000.

6. Enforcement of Regulations

Ontario law makes those who put the safety of our drinking water at risk accountable for their actions. The Ministry of the Environment's Investigation and Enforcement Branch (IEB) is responsible for investigating possible violations of the province's environmental protection laws, including the SDWA.

Ministry investigators are expected to conduct their business fairly and impartially, since they are gathering evidence that may be used to prosecute people or businesses in the courts, which may lead to convictions that involve fines, prison sentences, or both. The process from investigation to prosecution is as follows:

- Ministry of the Environment drinking water inspector files an incident report and refers the alleged drinking water violation to the Investigation and Enforcement Branch;

- IEB reviews the inspector's report and begins an investigation if necessary. An investigation involves interviewing witnesses and taking formal statements—sometimes requiring cautioned statements from people who may be charged—and acquiring search warrants or other judicial authorizations, as needed;

TABLE 2: Summary of 2006-07 Convictions for Drinking Water Prosecutions by Facility Type and Summary of 2005-06 & 2004-05 Convictions*

Type of Facility			2006-07 Fines			2005-06 Fines		2004-05 Fines
Municipal Residential Drinking Water Systems	22	24	$154,000	21	25	$201,000	14	$100,504
Non-Municipal Year-Round Residential Systems	2	2	$8,000	6	6	$15,200	-	-
Systems Serving Designated Facilities	2	2	$9,000	6	7	$53,700	-	-
Licensed Laboratory	2	1	$54,000	2	2	$26,500	3	$30,000
Municipal Residential Drinking Water Systems & Licensed Laboratory	1	2	$28,000	-	-	-	-	-
Total	29	31	$253,000	35	40	$296,400	17	$130,504

* Does not include drinking water systems regulated under O.Reg. 252/05 that are transferring to the Ministry of Health and Long-Term Care
* Does not include conviction and fine of $75,000 against a private car wash (See Tapping In on page 29).

- When the investigation is over, the investigator reviews all the evidence and decides whether or not to recommend the laying of charges;

- If the laying of charges is recommended, a Crown Attorney reviews the evidence, evaluates the benefits to the public of pursuing a conviction, and also evaluates the prospects of securing a conviction; and

- If the Crown Attorney decides to pursue a conviction, charges are laid.

Drinking Water Systems Convictions Overview

Between April 1, 2006 and March 31, 2007, there were 26 convictions of both municipal and non-municipal drinking water systems regulated under O.Reg. 170/03 and the Ontario Water Resources Act, 1990 (OWRA). As well, there were two convictions of licensed drinking water testing laboratories, and one conviction of both a municipal residential drinking water system and a licensed laboratory. These 29 convictions resulted in fines totalling $253,000.

Municipal Residential Drinking Water Systems

In 22 cases involving 24 municipal residential drinking water systems in 2006-07, the resulting convictions led to fines totalling $154,000. Table 2 provides more details on these convictions and fines. Appendix 3-A, starting on page 102, lists the municipal residential drinking water systems and their owners that were convicted during 2006-07 for offences committed either during or before this period. Please note that the conviction statistics reflect the year in which the conviction took place, not the year when the offence was committed.

Non-Municipal Year-Round Residential Systems and Systems Serving Designated Facilities

During 2006-07, there were four cases involving non-municipal year-round residential drinking water systems and systems serving designated facilities that resulted in convictions. The convictions led to fines totalling $17,000.

Tapping in

Car Wash Fined $75,000

In the CDWI's 2004-05 Annual Report, the Ministry of the Environment provided information on an incident in Stratford, Ontario. This is an update on that incident.

On March 7, 2005, a homeowner discovered a pink, foamy substance in the tap water of a Stratford home. The Ministry of the Environment's Spills Action Centre, the local Ministry of the Environment Office in the City of London and the Perth District Health Unit investigated the problem immediately, and also contacted the local municipality and the local Medical Officer of Health. The investigation found that the substance was coming from a car wash across the street from the residence, which had discharged a detergent into the drinking water distribution system, either through a cross connection or the failure of a backflow prevention valve.

The local Medical Officer of Health issued a Drinking Water Advisory (DWA) for Stratford at noon on that day. The municipality immediately began to flush the whole system and, with the assistance of the local Ministry of the Environment staff, to test the water for potential contamination. The car wash was subsequently disconnected from the City's water supply. The DWA was upgraded to a Boil Water Advisory (BWA) the next day, and the BWA was lifted on March 9.

The car wash was subsequently charged under the SDWA, and in 2007, the company was convicted and fined a total of $75,000.

Licensed Drinking Water Testing Laboratories

In two cases that involved the same licensed drinking water testing laboratory, convictions during 2006-07 resulted in fines totalling $54,000. More details on laboratory convictions during the year are provided in Appendix 3-B on page 104.

Conviction of a Licensed Drinking Water Testing Laboratory and a Municipality

In one case during the year, a licensed drinking water testing laboratory and a municipal residential drinking water system were jointly convicted, resulting in fines of $14,000 each for a total of $28,000. More detail on this conviction is provided in Appendix 3-C on page 104.

7. Integrated Information Management

Drinking Water Ontario Portal a Gateway to Information

In the spring of 2007, the Ministry of the Environment launched a powerful new information tool to help inform water researchers, students and the public about the quality of their drinking water, and provide them with information on a wide range of water-related matters.

The Drinking Water Ontario portal is an internet-based gateway to drinking water information and resources. Visiting the portal provides people with a one-window access point for a wide variety of drinking water information. The portal offers a number of exciting, user-friendly features— including a drinking water quality map that provides access to information on local drinking water, links to on-line municipal residential drinking water system annual reports, and an option that lets visitors customize their content to ensure they get the right information.

The Drinking Water Ontario portal is supported by information from the Ministry of the Environment's two main drinking water databases: the Drinking Water Information System (DWIS) and the Laboratory and Waterworks Inspection System (LWIS).

The portal is fully expandable, and this will help the Ministry of the Environment meet the growing demand for information about drinking water from the public and stakeholders. In 2007, the Ministry of the Environment's Drinking Water Ontario portal initiative was a Showcase Ontario Merit Winner in the "Serving Ontario Citizens" category. Please visit the new portal at www.ontario.ca/drinkingwater.

Visit the Drinking Water Ontario portal: www.ontario.ca/drinkingwater

8. Delivering Education and Outreach Initiatives and Providing Public Access to Information

Reaching Out to Stakeholders and the Public

Education and outreach is a key component of the safety net. The ministry reaches out to the regulated community by producing information tools such as fact sheets, guides and technical documents. These materials promote a common understanding of the roles and responsibilities of all drinking water partners across the province.

Ontario's Chief Drinking Water Inspector (CDWI) is actively engaged with the Ministry of the Environment's partners and stakeholders in the drinking water sector, and attends and speaks at numerous conferences, events and meetings throughout the year. This collaborative, informative approach helps to create and maintain strong, effective partnerships, while providing the public and stakeholders with a province-wide perspective on the status of Ontario's drinking water policies and programs.

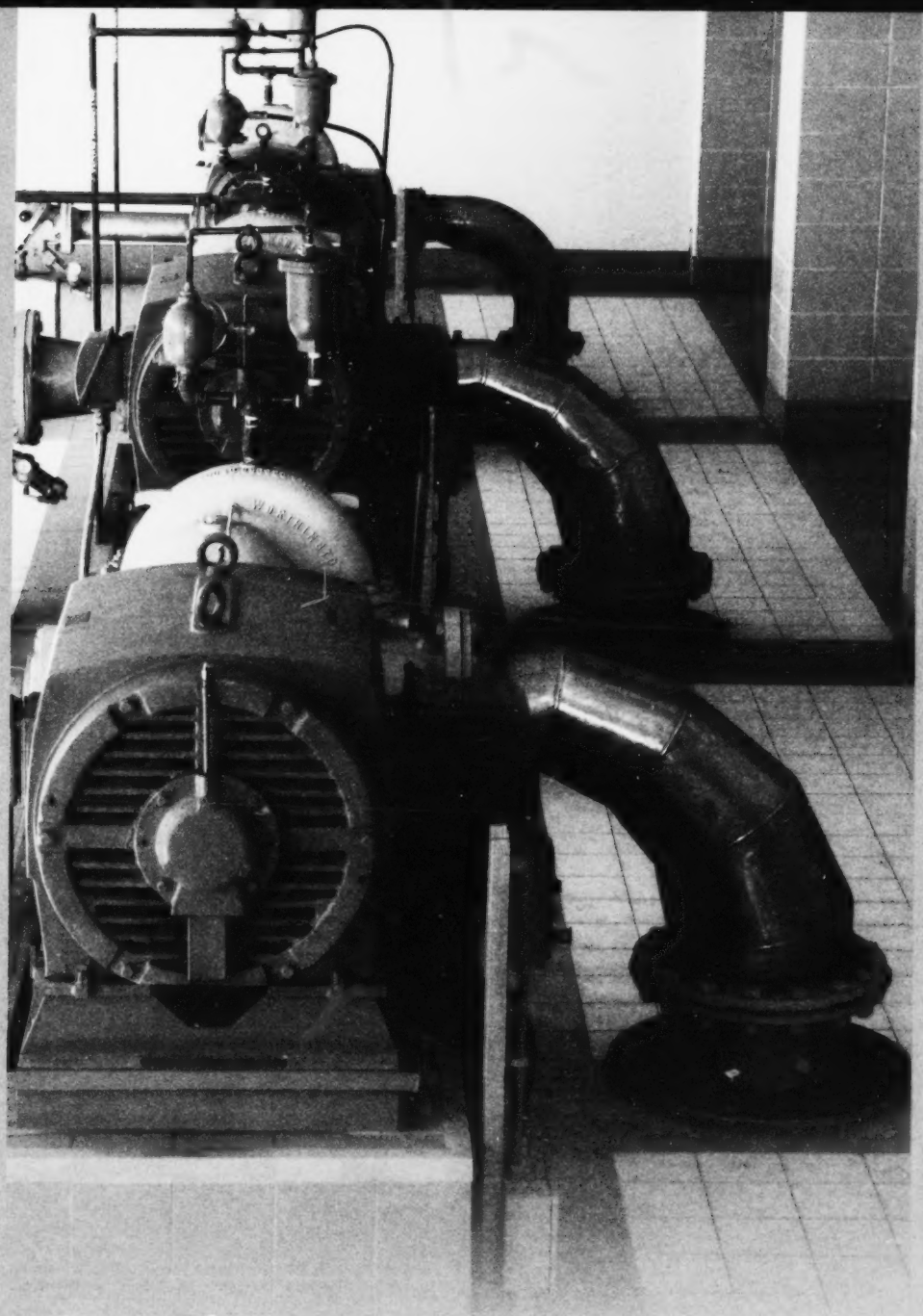
The Ministry of the Environment, in collaboration with the Walkerton Clean Water Centre, hosted a number of information sessions to discuss changes to Ontario Regulation 170/03. The sessions were held

at eight locations throughout the province including Thunder Bay, Sault Ste. Marie, London, Ottawa and Walkerton.

The ministry also hosted roundtable meetings on the Clean Water Act, 2006 (CWA) that were attended by several hundred stakeholders. The sessions were designed to allow stakeholders to comment on draft regulations under the CWA, and were held in London, Sudbury, Toronto, Kingston and Barrie. Through the capacity building funding provided to conservation authorities by the Ministry of Natural Resources, in partnership with the Ministry of the Environment, the conservation authorities led a local information and educational campaign to advise the public, stakeholders and municipalities about the CWA and its regulations.

As well, a new partnership with First Nations resulted in information sessions being hosted by the local First Nations on the Tyendenaga Territory, Six Nations Reserve and Whitefish Lake Reserve. At these sessions, Ministry of the Environment staff had an opportunity to provide information to First Nations about the proposed regulations under the CWA, and to discuss their implications and opportunities for First Nations.

Drinking water related information tools, published by the Ministry of the Environment, are available on the Drinking Water Ontario portal (www.ontario.ca/drinkingwater).



Our safety net allows the people of Ontario to have confidence that the water coming out of their taps is safe and of high quality.

Protecting our environment. Ontario

2006-07 Water Quality

- 99.83 per cent of municipal residential drinking water systems tests met standards
- 99.40 per cent of non-municipal year-round residential drinking water systems tests met standards
- 99.49 per cent of drinking water systems serving designated facilities tests met standards

Ontario consumers can have confidence in the quality of the water that comes out of their taps. Reviewing the results of hundreds of thousands of water quality tests carried out on the water samples provided by the province's regulated drinking water systems during 2006-07 is intended to help make Ontario consumers more informed about the safety and quality of their drinking water.

To safeguard Ontario's drinking water and public health, the province's drinking water safety net requires immediate notification of the appropriate authorities and immediate corrective action whenever drinking water test results indicate that the water does not meet the province's drinking water quality standards.

This section of the Chief Drinking Water Inspector's annual report presents information on the quality of drinking water delivered in 2006-07 by municipal residential drinking water systems. All told, 99.83 per cent of the water quality tests performed on Ontario's drinking water met the province's rigorous quality standards in 2006-07.

This section also presents information on the quality of the water provided by non-municipal year-round residential systems, and by systems serving designated facilities (e.g., facilities that serve populations who may be especially susceptible to drinking water of poor quality). These three drinking water system categories are covered by Ontario's Drinking Water Systems Regulation (O.Reg. 170/03). Table 3 provides a summary of the

Ontario consumers can have confidence in the quality of the water that comes out of their taps.

Tapping in

Turn On The Tap to Better Health

Drinking plenty of water is good for your health. The nearest supply of safe, high quality water is often as close as your tap.

We use tap water in many ways every day, including for cooking, bathing, cleaning our teeth, and making coffee and tea in the morning. Tap water is central to our quality of life and offers many other important benefits, such as protecting public health, fighting fires and helping communities develop, grow and prosper.

Safe, high quality water is one of the prerequisites for healthy economic development. It's essential for anyone looking to set up a new business or build new homes. Water is also the main ingredient in thousands of consumer products—from foods and beverages to toothpaste and shampoo.

Most communities test their water supplies every day. Ontario regulations require the Ministry of the Environment to inspect every municipal residential drinking water system at least once a year. Drinking water testing laboratories must be inspected at least twice a year.

Tighter government regulations, better training, careful monitoring of procedures at water treatment plants and other safeguards help ensure that people living in communities across Ontario can rely on water that is of very high quality.

Municipal tap water serves more than 80 per cent of Ontario's population. In 2006-07, tests of municipal residential drinking water showed that 99.83 per cent of the samples met Ontario's strict quality and safety standards.

Across Ontario, people can trust their community drinking water systems as they turn on the tap to a healthier lifestyle.

TABLE 3: Drinking Water Test Results for Drinking Water Systems for 2006-07, 2005-06 and 2004-05

Facility Type	2006-07 % Meeting Standards	2005-06 % Meeting Standards	2004-05 % Meeting Standards
Municipal residential drinking water systems	99.83	99.84	99.74
Non-municipal year-round residential drinking water systems	99.40	99.45	99.41
Drinking water systems serving designated facilities	99.49	99.42	99.06

results of drinking water tests that met Ontario Drinking Water Quality Standards, by category, for the last three years.

Meeting Ontario's Drinking Water Standards

Ontario law requires that the water delivered by all regulated drinking water systems throughout the province be sampled and tested to confirm that it meets the province's strict quality standards. The testing must be performed by Ontario's licensed drinking water testing laboratories. The laboratories are accredited by designated accrediting bodies for specific tests, and are also inspected and licensed by the Ministry of the Environment, to promote consistency and reliability. Under provincial legislation, licensed laboratories must submit all test results electronically for these three drinking water system categories to the ministry's Drinking Water Information System (DWIS). DWIS provides a comprehensive record of all the tests performed on drinking water samples submitted by system owners and operators across the province.

The laboratories test drinking water samples to determine if specific contaminant levels in the water exceed the maximum concentration limits allowable under provincial standards. All exceedances of representative samples from a drinking water system must be reported to the proper authorities immediately, and corrective actions must be taken. Additional details regarding the actions taken in response to any exceedances are provided earlier in this report in the section describing Ontario's drinking water safety net on page 20.

Provincial standards for drinking water quality are set out in Ontario's Drinking Water Quality Standards Regulation (ODWQS)—O.Reg. 169/03. This regulation establishes health-based standards for a total of 161 microbiological, chemical and radiological parameters.

Ontario derives its standards from the Canadian Drinking Water Quality Guidelines, which are developed by the Federal-Provincial-Territorial Committee on Drinking Water (CDW).

Canadian Drinking Water Quality Guidelines are re-evaluated at least every five years in response to new scientific knowledge about the impact of particular substances, or whenever new treatment methods are developed. Health Canada prepares a rationale document to support a proposed new or revised guideline. The document outlines the reasons supporting development of the new guideline, and serves as the basis for a national consultation process.

After the consultation is completed and CDW approves the new guideline, Ontario carries out its own province-wide consultation before deciding whether or not to adopt the new guideline as an ODWQS. As part of this decision-making process, Ontario's Advisory Council on Drinking Water Quality and Testing Standards (the Advisory Council) reviews the CDW document and the consultation comments and makes a recommendation to the Minister of the Environment (see www.odwac.gov.on.ca). The Advisory Council may recommend that the province adopt the proposed guideline as an ODWQS, or that Ontario adopt a more stringent drinking water quality standard.

In Ontario, health-based guidelines for drinking water quality are given the force of law by incorporating them into the Ontario Drinking Water Quality Standards Regulation (O. Reg. 169/03). Non-health-related guidelines may be adopted as aesthetic objectives or operational guidelines.

The provisions of Ontario's Drinking Water Systems Regulation require mandatory testing of drinking water samples for chemical, microbiological and radiological parameters. The regulation also sets out the types of samples (i.e., raw water, treated water, distribution water and tap water) that must be taken, and the testing frequencies required. These requirements vary according to factors such as system category, the size of the population served and the water source. In large municipal residential systems, the treated water samples must be taken at the point where the treated water enters the distribution system. During 2006-07, roughly 227,000 fewer tests were carried out and reported compared to 2005-06, because some parameters do not have to be tested every year.[1]

In Ontario, health-based guidelines for drinking water quality are given the force of law, by incorporating them in provincial regulations.

1 The number of drinking water tests decreased in 2006-07 due to the regulatory change that removed testing and reporting for Fecal Coliform, Total Coliform and Heterotrophic Plate Count – see "Testing Requirements for Microbiological Parameters Changed" on page 36.

Also, under O.Reg. 170/03, testing of inorganic and organic, health-related parameters in Schedules 23 and 24 is mandatory for small municipal residential systems once every 60 months. For large municipal residential systems, the testing requirement is once every 36 months for groundwater systems, and every 12 months for surface water systems. This varying testing frequency accounts for variations in the number of tests from year to year.

Tapping In

Results of Fecal Coliform, Total Coliform and Heterotrophic Plate Count Tests Submitted from April 1, 2006 to June 5, 2006

Municipal Residential Drinking Water Systems

- Of 40,842 test results submitted, 54 results at 30 systems exceeded standards – 99.87 per cent of the tests met provincial standards.

Non-Municipal Year-Round Residential

- Of 3,268 test results submitted, 10 results exceeded standards – 99.69 per cent of the tests met provincial standards.

Drinking Water Systems serving Designated Facilities

- Of 8,585 test results submitted, 68 results exceeded standards – 99.21 per cent of the tests met provincial standards.

Testing Requirements for Microbiological Parameters Changed

In 2005-06, Regulation 170/03 required drinking water to be tested for total coliform (TC), *E. coli* and fecal coliforms (FC). Testing was also required for general bacteria populations, expressed as background colony counts on a total coliform membrane filter and heterotrophic plate count (HPC). In June 2006, the regulation was amended to remove the testing requirement for FC and background colony counts. The standards for FC, background colony counts and HPC were also removed from the Ontario Drinking Water Quality Standards Regulation (O. Reg. 169/03). The Ontario Drinking Water Quality Standard for *E. coli* requires that it be "non-detectable."

These changes were made on the recommendation of the Advisory Council in a letter written to the Minister of the Environment in April 2005.

The new testing requirements were introduced based on the recognition that *E. coli* is a more definitive indicator of fecal contamination and human health risk than fecal coliform, and that HPC counts taken in isolation are not considered to be a reliable basis for public health decision-making. While heterotrophic bacteria may grow and persist inside a water distribution system, their presence alone does not necessarily represent a human health risk.

Ontario still requires testing for HPC in distribution systems by regulated systems that provide secondary disinfection. However, reporting of adverse test results and corrective action is no longer mandatory for this parameter. The ministry recognizes that a sudden increase in HPC could be an early signal that the quality of a system's water may be deteriorating, or that the system may have an operational problem. The Tapping In box on this page describes the results of tests for FC, TC and HPC that were reported to the ministry before the regulation change. These results are not included in the water quality summaries (in Tables 4, 8 and 10).

Strict Microbiological Standards

Since some bacteria in drinking water can pose health impacts, Ontario has adopted zero-tolerance standards in this area. For example, in order to meet the ODWQS *E. coli* and total coliform must be "non-detectable" in a sample volume of 100 millilitres. While only some micro-organisms cause illness, immediate corrective action is taken whenever water quality testing indicates that they are present at any level. When bacterial contamination is detected, the system operator is required to report it as an adverse water quality incident (AWQI) and take

corrective action by re-sampling and testing and any other steps as directed by the local Medical Officer of Health.

If any level of *E. coli* is detected in a drinking water sample, it indicates fecal contamination, and may also indicate that more harmful strains of *E. coli* bacteria and other pathogens are present. Immediate action is necessary because, as noted, some *E. coli* bacteria strains and other pathogens have the potential to cause illnesses that may result in death, especially in vulnerable people such as children, the elderly and people with weakened immune systems.

Testing for Chemical Parameters

Ontario's Drinking Water Systems Regulation requires drinking water samples to be tested for chemicals that could represent a risk to human health. The provincial standards are set at levels where no adverse effects are observed, with an additional margin of safety factored in. The chemical tests performed on drinking water vary according to the type of chemical, the category of drinking water system, the size of the population the system serves and the source of the raw water.

Testing for Radiological Parameters

Radiological parameters can be naturally occurring in drinking water, depending on local geology and the proximity to mining operations, or they may be man-made. As a result, the ministry requires some municipal residential drinking water systems to perform periodic tests to determine the levels of radiological parameters in the water. These measurements may only be required once every few years, and the type and frequency of the testing required are defined in the Ministry Certificate of Approval that permits the drinking water system to operate.

Testing for Aesthetic Parameters

In Ontario, the characteristics of local tap water can vary from community to community and region to region. Drinking water is tested regularly for aesthetic parameters such as taste, colour and odour, because these parameters can indicate operational problems. For this reason the province has developed operational aesthetic guidelines or objectives. Parameters, for which there are aesthetic objectives, include pH, colour and turbidity (clarity), and chemicals such as sodium, iron and manganese.

If the result of a drinking water sample test is greater than the province's aesthetic objective, this does not mean that the water is unsafe to drink, or that it poses a health impact. However, when some drinking water test results are greater than the objective, the water's taste may be significantly impacted resulting in complaints from consumers. For other

A water test for chlorine residual.

Since some bacteria in drinking water can pose health impacts, Ontario has adopted zero-tolerance standards in this area.

Filtering a drinking water sample for chemical analysis.

aesthetic parameter when water test results are greater than the objective, there may be consequences only for specific groups of people. For example, the aesthetic objective for sodium (salt) in drinking water in Ontario is 200 milligrams per litre. However, provincial technical guidance documents stipulate that even if the sodium concentration in a drinking water test sample is only 10 per cent of the aesthetic objective—at just 20 milligrams per litre—the local Medical Officer of Health should be notified. This provision is designed to enable local physicians to advise any patients who may be on sodium-restricted diets.

2006-07 Water Quality Summary: Municipal Residential Drinking Water System

More than 80 per cent of Ontario's people get their drinking water from municipal residential drinking water systems. Others can get their drinking water from non-municipal year-round residential systems (which includes small private systems serving more than five homes), or from systems serving designated facilities. These systems fall under Ontario regulations.

Under Ontario's Safe Drinking Water Act, 2002, a municipal residential drinking water system is one that is owned by a municipality, a municipal corporation or a municipal service board, or one that obtains water under a contract between the municipality and the system's owner.

Municipal residential drinking water systems are classified as either small or large by O.Reg. 170/03, and must serve a major residential development (defined as more than five private residences) on one or more properties. Small municipal residential systems are those drinking water systems that serve a major residential development and up to 100 private residences, while large municipal systems are drinking water systems that serve more than 100 private residences.

Test results reported in 2006-07 on drinking water samples from municipal residential drinking water systems confirm that Ontario's municipalities are providing their customers with high quality drinking water.

During the year, 524,975 microbiological, chemical and radiological tests were conducted on drinking water samples from municipal residential drinking water systems. Each test result was submitted electronically to the ministry and captured in the Drinking Water Information System (DWIS). A total of 707 municipal residential drinking water systems were inspected in 2006-07, and of these, 703 submitted water quality results. The difference between these two numbers is that water quality data are not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Overall, 99.83 per cent of the water quality tests met the provincial standards. Conversely, only 0.17 per cent exceeded the maximum allowable concentrations under Ontario's Drinking Water Quality Standards.

Under the provisions of the Safe Drinking Water Act, 2002 and provincial regulations, drinking water system sample test results that exceed Ontario's Drinking Water Quality Standards are considered to be an adverse water quality incident (AWQI). As noted earlier in the Safety Net section of this report on page 20, an AWQI immediately triggers a process of immediate notification of the appropriate authorities, and immediate corrective action to address the problem.

While every AWQI is dealt with immediately, the ministry's inspectors also work with system owners and operators over the longer term to discuss best practices and methods of preventing such incidents from recurring. For example, ministry staff may offer suggestions on how a plant's treatment process can be improved, or how the operator could benefit from additional training. Ministry staff also ensure that the local Medical Officer of Health (MOH) is informed about any health-related concerns that may arise in connection with the local drinking water system, and work with the MOH and the system's owner and operator to resolve any problems that are identified.

Tapping in

Key Findings

- Municipal residential drinking water systems reported 524,975 water quality test results.
- 99.83 per cent of these water quality tests met the provincial standards.
- Of the tests, 99.85 per cent of microbiological tests met provincial standards; 99.61 per cent of chemical water quality tests met provincial standards and 100 per cent of radiological water quality tests met provincial standards.
- Only 0.17 per cent of the tests exceeded provincial standards.
- 58 water quality test results were positive for *E. coli*. Upon resampling, all of the samples were clear.

Test results reported in 2006-07 confirm that Ontario's municipalities are providing their customers with high quality drinking water.

Table 4 presents a summary of the water quality test results for the 703 municipal systems that submitted data in 2006-07. The results are shown as a percentage of the tests that met provincial standards, broken down by the parameters that were tested. The water quality results for individual municipal residential drinking water systems are presented in Appendix 1 starting on page 78. These results can also be found on the Drinking Water Ontario portal at www.ontario.ca/drinkingwater.

Microbiological Parameters

From April 1, 2006 to March 31, 2007, *E. coli* bacteria were detected in 58 water quality results from the total 233,134 samples that were tested for this parameter. This represents an increase compared to 2005-06, when *E. coli* bacteria were detected in 30 samples of the 232,575 samples tested for this parameter.

In all, 39 of 699 (six per cent) municipal residential drinking water systems reported exceedances for

TABLE 4: Summary of Drinking Water Test Results for All Municipal Residential Drinking Water Systems (MRDWS) from April 1, 2006 to March 31, 2007 and Overall 2005-06 and 2004-05 Drinking Water Test Results for MRDWS

PERIOD	APRIL 01, 2006 to MARCH 31, 2007					2005-06	2004-05
Parameter Name	# of Results	# of Exceedances	# of Municipal Residential Drinking Water Systems with Exceedances	% Exceedance	% Meeting Standards	2005-06 % Meeting Standards	2004-05 % Meeting Standards
MICROBIOLOGICAL							
E. coli	233,134	58	39	0.02	99.98	99.99	99.97
Total Coliform	234,656	625	246	0.27	99.73	99.72	99.67
MICROBIOLOGICAL TOTAL*	467,790	683	252	0.15	99.85	99.85	99.78
CHEMICAL	57,175	222	80	0.39	99.61	99.61	99.41
RADIOLOGICAL	10	-	-	0.00	100.00	100.00	99.65
TOTAL	524,975	905	299	0.17	99.83	99.84	99.74

* The microbiological total data is comparable for 2005-06 and 2004-05 but not for 2006-07. See page 36 for explanation on microbiological testing changes.

CHART 1: Number of Municipal Residential Drinking Water Systems with *E. coli* Standard Exceedances in 2006-07

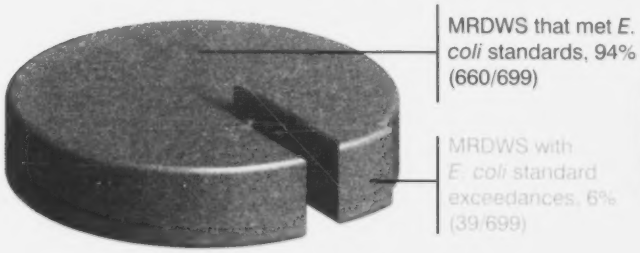
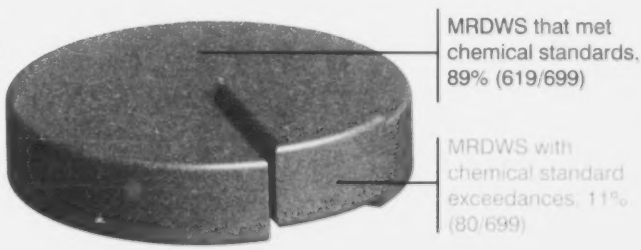


CHART 2: Number of Municipal Residential Drinking Water Systems with Chemical Exceedances in 2006-07



E. coli bacteria, during 2006-07, with 13 of those systems reporting multiple exceedances (see Chart 1). Corrective action was taken immediately in all cases, and when resampling was carried out, all of the samples were clear of *E. coli* bacteria. The effective response to *E. coli* bacteria exceedances demonstrates that Ontario's comprehensive drinking water safety net works.

During the year, 99.85 per cent of all microbiological water quality tests on municipal residential drinking water system samples met Ontario's legislated standards. Of all the exceedances reported during 2006-07, 75 per cent were for microbiological parameters. Total microbiological exceedances for 2006-07 cannot be compared with prior years' results, because of the change in testing and reporting requirements described earlier in this section (on page 36) for fecal coliform, total coliform and heterotrophic plate count.

A total of 252 municipal residential drinking water systems—representing 36 per cent of the 703 systems that submitted test results—reported microbiological parameter exceedances during 2006-07. Of these, 135 reported multiple exceedances. When exceedances are detected corrective action is immediately taken.

Chemical Parameters

In chemical tests of water samples from municipal residential drinking water systems, 99.61 per cent of the chemical tests carried out in 2006-07 met the province's drinking water quality standards. Chemical exceedances represented 25 per cent of all exceedances during the year (see Chart 2). All told, 80 of the 699 systems (11 per cent) with test results for chemical parameters reported exceedances. Of these, 55 systems reported multiple exceedances. When exceedances are detected corrective action is immediately taken. Table 5 provides a breakdown on the number of chemical exceedances reported for various chemicals reported over three years. Appendix 4, on page 105, presents a list of chemicals that can potentially be found in treated water, and the

TABLE 5: Chemical Standard Exceedances in Municipal Residential Drinking Water Systems 2006-07, 2005-06 and 2004-05

Chemical Parameter	2006-07 Number of Exceedances	2005-06 Number of Exceedances	2004-05 Number of Exceedances
Antimony	2	1	0
Arsenic	0	0	1
Benzo[A]Pyrene	1	0	3
Bromate	0	5	0
Fluoride	58	42	53
Lead	28	13	18
Nitrates	0	3	19
Nitrites	0	0	2
Nitrogen; Nitrate+Nitrite	14	15	31
Nitrosodimethylamine (NDMA)	0	1	0
Selenium	3	2	0
Trichloroethylene	2	0	0
Trihalomethane*	112	105	28
Uranium	2	0	2

* The Trihalomethane data is comparable for 2006-07 and 2005-06, but is not comparable with 2004-05. For explanation, please see the Chief Drinking Water Inspector's 2005-06 Annual Report at www.ontario.ca/drinkingwater.

maximum allowable concentrations of these chemicals under Ontario's Drinking Water Quality Standards.

Radiological Parameters

Radiological tests on water samples are carried out to meet specific requirements that are imposed on some systems by the Certificate of Approval, issued by the Ministry, which allows them to operate. During 2006-07, a total of 10 tests were carried out for radiological parameters, and all of the results met provincial standards.

Aesthetic Objective – Sodium

In 2006-07, 267 municipal residential drinking water systems submitted test results for sodium. Two of 953 sodium test results (0.21 per cent) were greater than the 200 mg/L aesthetic objective. One municipal residential drinking water system was involved in both instances. As well, 35 per cent of sodium test results (336 of 953) were below the province's 200 mg/L aesthetic objective, but above the 20mg/L level that triggers notification of the local Medical Officer of Health (see Table 6).

TABLE 6: Summary of Drinking Water Test Results for Sodium for Municipal Residential Drinking Water Systems (MRDWS) from April 1, 2006 to March 31, 2007 and 2005-06

2006-07							2005-06		
# of Results	# of Results >20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	# of Systems with Results >20 mg/L	% of Results >20 mg/L	% Results < 20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	% Results < 20 mg/L

2006-07 Water Quality Summary: Systems Serving Designated Facilities

A total of 1,633 drinking water systems serving designated facilities were registered in the ministry's Drinking Water Information System (DWIS) by the end of the 2006-07 fiscal year. Approximately 100 of these systems were registered during the previous 12 months. Of the 1,633 systems registered, 1,372 submitted water quality results during the year. One reason for this difference is that some systems receive transported water from municipal residential drinking water systems and are not required to test this water, while others were decommissioned or ceased operation during this period. These systems are not served by municipal residential or non-municipal year-round residential systems. The ministry is following up with the system's owners or operators to provide education, outreach and assistance on the province's sampling and reporting requirements to promote compliance with O.Reg. 170/03 (see Tapping In box on page 61). The ministry also tracks and contacts, by means of a non-compliance letter, those systems not submitting required test results. The ministry follows up on any incidents of continuing non-compliance.

Tapping In

Key Findings

- Systems serving designated facilities reported 102,363 water quality test results.
- 99.49 per cent of these water quality tests met the provincial standards.
- Of the tests, 99.48 per cent of microbiological tests met provincial standards. 99.51 per cent of chemical water quality tests met provincial standards.
- Only 0.51 per cent of the tests exceeded provincial standards.
- 57 water quality test results were positive for *E. coli*. All of the resamples were clear.

TABLE 7: Number of Registered Systems Serving Different Types of Designated Facilities (as of March 31, 2007) regulated under O. Reg. 170/03

Primary Function of Systems Serving Designated Facilities*	Number of Systems Serving Designated Facilities 2006-07	Number of Systems Serving Designated Facilities 2005-06
School*	637	619
Social Care	483	455
Health Care	116	105
Children's Camp	387	342
Other	10	10
Total	1,633	1,531

*Also includes two drinking water systems that serve both a school and health care facility and two systems that serve a school and social care facility.

Table 7 shows the number of drinking water systems serving various types of designated facilities.

All told, 102,363 microbiological and chemical tests were conducted by registered drinking water systems serving designated facilities in 2006-07. The test results showed that 99.49 per cent of the water quality samples met provincial standards. Conversely, 0.51 per cent of the tests (523 of 102,363)

exceeded provincial standards. In microbiological tests, 99.48 per cent of the samples met provincial standards. In chemical water quality tests, 99.51 per cent of the samples met provincial standards. Table 8 contains a summary of test results for systems serving designated facilities broken down by parameter.

Microbiological Parameters

During 2006-07, 99.48 per cent of microbiological water quality tests for systems serving designated facilities met provincial standards. Of all the exceedances from these systems, 77 per cent involved microbiological parameters. A total of 229 of 1,372 systems serving designated facilities reported microbiological exceedances, and 83 of these systems (36 per cent) reported multiple exceedances. This figure cannot be compared with last year because of the change in testing and reporting requirements described earlier in this report on page 36.

A total of 57 microbiological exceedances were for *E. coli*. This

TABLE 8: Summary of Drinking Water Test Results for Systems Serving Designated Facilities from April 1, 2006 to March 31, 2007 and Overall 2005-06 and 2004-05 Drinking Water Test Results

PERIOD	APRIL 01, 2006 to MARCH 31, 2007					2005-06	2004-05
Parameter Name	# of Results	# of Exceedances	# of Drinking Water Systems with Exceedances	% Exceedance	% Meeting Standards	2005-06 % Meeting Standards	2004-05 % Meeting Standards
MICROBIOLOGICAL							
E. coli	39,081	57	43	0.15	99.85	99.97	99.93
Total Coliform	39,081	348	214	0.89	99.11	99.25	98.95
MICROBIOLOGICAL TOTAL*	78,162	405	229	0.52	99.48	99.43	99.12
CHEMICAL	24,201	118	40	0.49	99.51	99.27	98.58
RADIOLOGICAL	-	-	-	NA	NA	NA	NA
TOTAL	102,363	523	269	0.51	99.49	99.42	99.02

* The microbiological total data is comparable for 2005-06 and 2004-05 but not for 2006-07. See page 36 for explanation on microbiological testing changes.

CHART 3: Number of Drinking Water Systems Serving Designated Facilities with *E. coli* Standard Exceedances in 2006-07

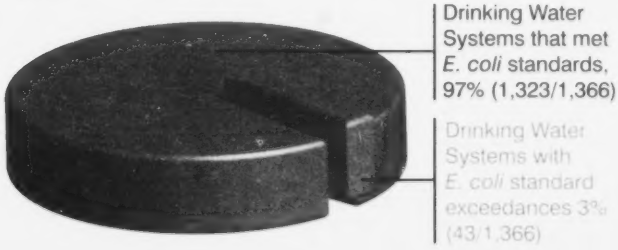
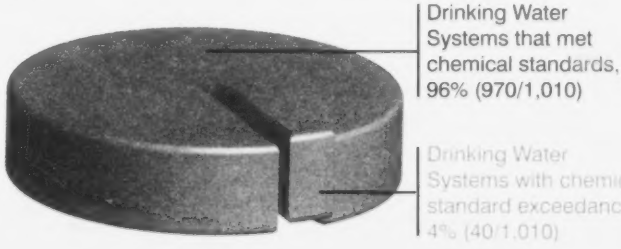

Drinking Water Systems that met E. coli standards, 97% (1,323/1,366)
Drinking Water Systems with E. coli standard exceedances 3% (43/1,366)

CHART 4: Number of Drinking Water Systems Serving Designated Facilities with Chemical Standard Exceedances in 2006-07


Drinking Water Systems that met chemical standards, 96% (970/1,010)
Drinking Water Systems with chemical standard exceedances 4% (40/1,010)

represents 0.15 per cent (57 of 39,081 results) of all test results for *E. coli* from these systems. Three per cent of the systems that serve designated facilities (43 of 1,366) reported *E. coli* exceedances, and eight of these systems reported multiple exceedances (see Chart 3). Upon re-sampling, all of the re-samples were clear.

Chemical Parameters

During the year, 99.51 per cent of chemical water quality tests of systems serving designated facilities met provincial standards. In all, 23 per cent (118 of 523) of all exceedances involved chemical parameters. Forty of the 1,010 (four per cent) systems serving designated facilities reported chemical exceedances during the year (see Chart 4). Of these, 32 systems reported multiple chemical exceedances. When exceedances are detected corrective action is immediately taken.

Aesthetic Objective – Sodium

In 2006-07, 296 out of 1,633 drinking water systems serving designated facilities submitted test results for sodium. Only a portion of registered systems submit test results each year, as these systems are required to test for sodium once every five years. Thirty-four of 456 sodium test results (seven per cent) were greater than the 200 mg/L aesthetic objective, involving 22 systems. However, 64 per cent of sodium test results (291 of 456) were below the 200 mg/L aesthetic objective, but above the 20mg/L level that triggers notification of the local Medical Officer of Health (see Table 9).

Tapping in

What is a Designated Facility?

Under Ontario's Safe Drinking Water Act, 2002 (SDWA), the province requires regular testing of the quality of the drinking water provided to all designated facilities in the province. Under the Act, designated facilities are defined as facilities that serve people who are potentially more susceptible to illness if they drink water that is of poor quality. These facilities include:

- Schools (public and private elementary and secondary schools);
- Universities and colleges;
- Children and youth care facilities, including:
  - Day nurseries as defined in the Day Nurseries Act, 1990;
  - Other child and youth care facilities that provide services or are licensed under the Child and Family Services Act, 1990 or the Ministry of Community and Social Services Act, 1990 (such as child development, treatment or welfare services, young offender services, Ontario Early Years Centres and licensed children's residences); and
  - Social care facilities receiving funding from the province under the Ministry of Community and Social Services Act, 1990 or the Developmental Services Act, 1990 or the Ontario Disability Support Program Act, 1997 (such as emergency shelter services, sheltered workshops, employment programs and domestic violence programs).
- Health Care facilities, where the facility provides overnight accommodation, including nursing homes, hospitals, psychiatric facilities and others;
- Children's camps; and
- Delivery agent care facilities, including certain hostels and recreational and resource centre programs that receive funding under the Day Nurseries Act, 1990.

TABLE 9: Summary of Drinking Water Test Results for Sodium for Systems Serving Designated Facilities from April 1, 2006 to March 31, 2007 and Overall 2005-06 and 2004-05 Drinking Water Test Results

2006-07							2005-06		
# of Results	# of Results >20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	# of Systems with Results >20 mg/L	% of Results >20 mg/L	% Results < 20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	% Results < 20 mg/L
456	325	64	7	186	71.27	28.73	43	8	49.37

Tapping in

Key Findings

For non-municipal year-round residential drinking water systems:

- 99.40% of water quality tests met provincial standards, including 99.33% of microbiological tests, and 99.75% of chemical tests.
- A total of 395 systems submitted *E. coli* test results, with 25 exceedances reported by 18 systems. Upon resampling all of the samples were clear.

2006-07 Water Quality Summary: Non-Municipal Year-Round Residential Drinking Water Systems

In 2006-07, there were 484 non-municipal year-round residential drinking water systems registered on the ministry's DWIS—a significant increase over the 340 such systems that were registered in 2005-06. Of the 484 systems registered, 398 submitted water quality results in 2006-07, of which 395 submitted *E. coli* test results. One reason for this difference is that many of these systems were decommissioned or ceased operation during the year. The ministry continues to work with the owners and operators of these smaller systems to inform them about their regulatory responsibilities, encourage them to register their systems in the provincial drinking water database, and help them comply with O.Reg. 170/03 (see Tapping In box on the Compli-

TABLE 10: Summary of Drinking Water Test Results for Non-Municipal Year-Round Residential Systems from April 1, 2006 to March 31, 2007 and Overall 2005-06 and 2004-05 Drinking Water Test Results

PERIOD	APRIL 01, 2006 to MARCH 31, 2007					2005-06	2004-05
Parameter Name	# of Results	# of Exceedances	# of Drinking Water Systems with Exceedances	% Exceedance	% Meeting Standards	2005-06 % Meeting Standards	2004-05 % Meeting Standards
MICROBIOLOGICAL							
E. coli	17,986	25	18	0.14	99.86	99.89	99.93
Total Coliform	17,983	216	93	1.20	98.80	98.98	98.80
MICROBIOLOGICAL TOTAL	35,969	241	98	0.67	99.33	99.41	99.43
CHEMICAL	7,602	19	11	0.25	99.75	99.80	99.28
RADIOLOGICAL	-	-	-	NA	NA	NA	NA
TOTAL	43,571	260	108	0.60	99.40	99.45	99.41

* The microbiological total data is comparable for 2005-06 and 2004-05 but not for 2006-07. See page 36 for explanation on microbiological testing changes.

CHART 5: Number of Non-Municipal Year-Round Residential Drinking Water Systems with *E. coli* Standard Exceedances in 2006-07

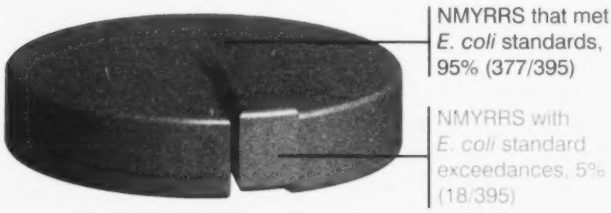
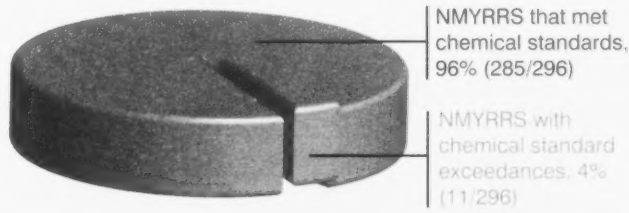


CHART 6: Number of Non-Municipal Year-Round Residential Drinking Water Systems with Chemical Standard Exceedances in 2006-07



ance Registration Orientation Project on page 61). Also, the ministry tracks and contacts, by means of a non-compliance letter, those systems not submitting required test results. The ministry follows up on any incidents of continuing non-compliance.

There were 43,571 microbiological and chemical drinking water tests carried out on drinking water samples from these systems during 2006-07. The overall test results showed that 99.40 per cent of the water quality tests from non-municipal year-round residential systems met provincial standards—including 99.33 per cent of the microbiological tests, and 99.75 per cent of the chemical tests. By contrast, only 0.60 per cent of the water quality tests exceeded provincial standards. Table 10 contains a summary of test results for non-municipal year-round residential drinking water systems broken down by parameter.

TABLE 11: Number of Chemical Standard Exceedances For Systems Serving Designated Facilities (DF) and Non-Municipal Year-Round Residential Systems (NMYRR) 2006-07, 2005-06 and 2004-05

PERIOD	2006-07		2005-06		2004-05	
Arsenic	0	0	1	0	1	1
Barium	2	0	0	1	0	6
Chromium	0	0	0	0	1	0
Fluoride	30	6	0	4	19	2
Lead	6	5	2	2	1	0
Nitrates	22	0	10	1	48	3
Nitrites	0	0	0	1	6	0
Nitrogen; Nitrate+Nitrite	58	1	33	0	45	2
Selenium	0	0	1	0	1	0
Trihalomethane*	0	5	0	1	0	4
Uranium	0	2	0	4	2	1
Chemical Total	118	19	47	14	125	19

* The Trihalomethane data is comparable for 2006-07 and 2005-06, but is not comparable with 2004-05

Microbiological Parameters

During 2006-07, 99.33 per cent of the microbiological water quality tests carried out on samples from non-municipal year-round residential drinking water systems met provincial standards. A total of 98 of 398 systems submitting results reported exceedances, and 38 of these systems (39 per cent) reported multiple exceedances.

Where exceedances were reported, 93 per cent were related to microbiological tests. This figure cannot be compared with last year due to the change in testing and reporting requirements described earlier in this report on page 36.

Twenty-five of the microbiological exceedances were for *E. coli* bacteria, representing 0.14 per cent (25 of 17,986 results) of all tests for this parameter. In all, 18 of 395 systems (five per cent) reported *E. coli* bacteria exceedances, and five of these systems reported multiple exceedances (see Chart 5). Upon re-sampling, all of the samples were clear.

TABLE 12: Summary of Drinking Water Test Results for Sodium for Non-Municipal Year-Round Residential Systems from April 1, 2006 to March 31, 2007 and 2005-06

2006-07							2005-06		
# of Results	# of Results >20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	# of Systems with Results >20 mg/L	% of Results >20 mg/L	% Results < 20 mg/L	% of Tests >20 mg/L to 200 mg/L	% of Tests >200 mg/L	% Results < 20 mg/L
88	53	57	3	36	60.23	39.77	55	4	41.03

Chemical Parameters

In 2006-07, chemical water quality tests carried out on samples from non-municipal year-round residential drinking water systems met provincial standards in 99.75 per cent of the cases, with only 0.25 per cent of the tests results indicating exceedances. In all, 11 of 296 systems (four per cent) reported chemical exceedances and five of these systems reported multiple exceedances of some chemicals (see Chart 6). When exceedances are detected corrective action is immediately taken. Table 11 provides details for systems serving designated facilities and non-municipal year-round residential systems for 2006-07.

Aesthetic Objective – Sodium

In 2006-07, a total of 65 out of 484 non-municipal year-round residential drinking water systems submitted test results for sodium. Only a portion of registered systems submit test results each year, as these systems are required to test for sodium once every five years. Three of 88 sodium test results (three per cent) were above the 200 mg/L aesthetic objective, involving two systems. However, 57 per cent of sodium test results (50 of 88) were below the 200 mg/L aesthetic objective, but above the 20 mg/L level that triggers notification of the local Medical Officer of Health (see Table 12).

Focusing on Continuous Improvement

During 2006-07, the Ministry of the Environment continued to work with drinking water systems across Ontario whose water quality results needed to improve. In some cases, process improvements were suggested, while in others, the ministry suggested additional training for system operators. The range of progres-

sively tougher actions, described on page 27, can also be employed when inspectors find instances of non-compliance.

Ontario's drinking water safety net includes a number of measures that are designed to help the ministry respond effectively to the often unique circumstances of smaller drinking water systems, especially those that are privately owned or operated.

The Walkerton Clean Water Centre, for example, has a province-wide mandate to provide owners and operators of smaller systems with access to a range of training programs that promote continuous improvement towards regulatory compliance. As well, the safety net's requirements for immediate notification of AQWIs and immediate corrective action enable the ministry to deal quickly and effectively with potential water related health hazards.

In 2005-06, the ministry launched a new compliance strategy in the non-municipal sector, targeted especially at drinking water systems that serve designated facilities and non-municipal year-round residential systems. The strategy combined education and outreach activities with pro-active inspections. More information on the next steps involved in implementing the strategy can be found in the "Looking Ahead" section of this report starting on page 71.

Blue-Green Algae

Blue-green algae, or cyanobacteria, is a primitive, microscopic organism that has been living in fresh water lakes, bays and inlets for some two billion years. Known to most of us as "pond scum," blue-green algae are not really plants, but are actually tiny bacteria that prefer living in shallow, slow-moving water. The algae often form large "blooms" in the late summer or early fall, and these blooms make the water look like thick pea soup, while giving it an unpleasant smell.

Cyanobacteria are naturally present in the environment, but human activities can make them even more prevalent. Storm water and agricultural runoff, effluent from waste management systems and faulty septic systems all add nutrients to surface water bodies, and that helps provide the algae with good conditions for blooming. It is important to be cautious when these blooms occur, because some forms of blue-green algae are known to cause health problems for both humans and animals.

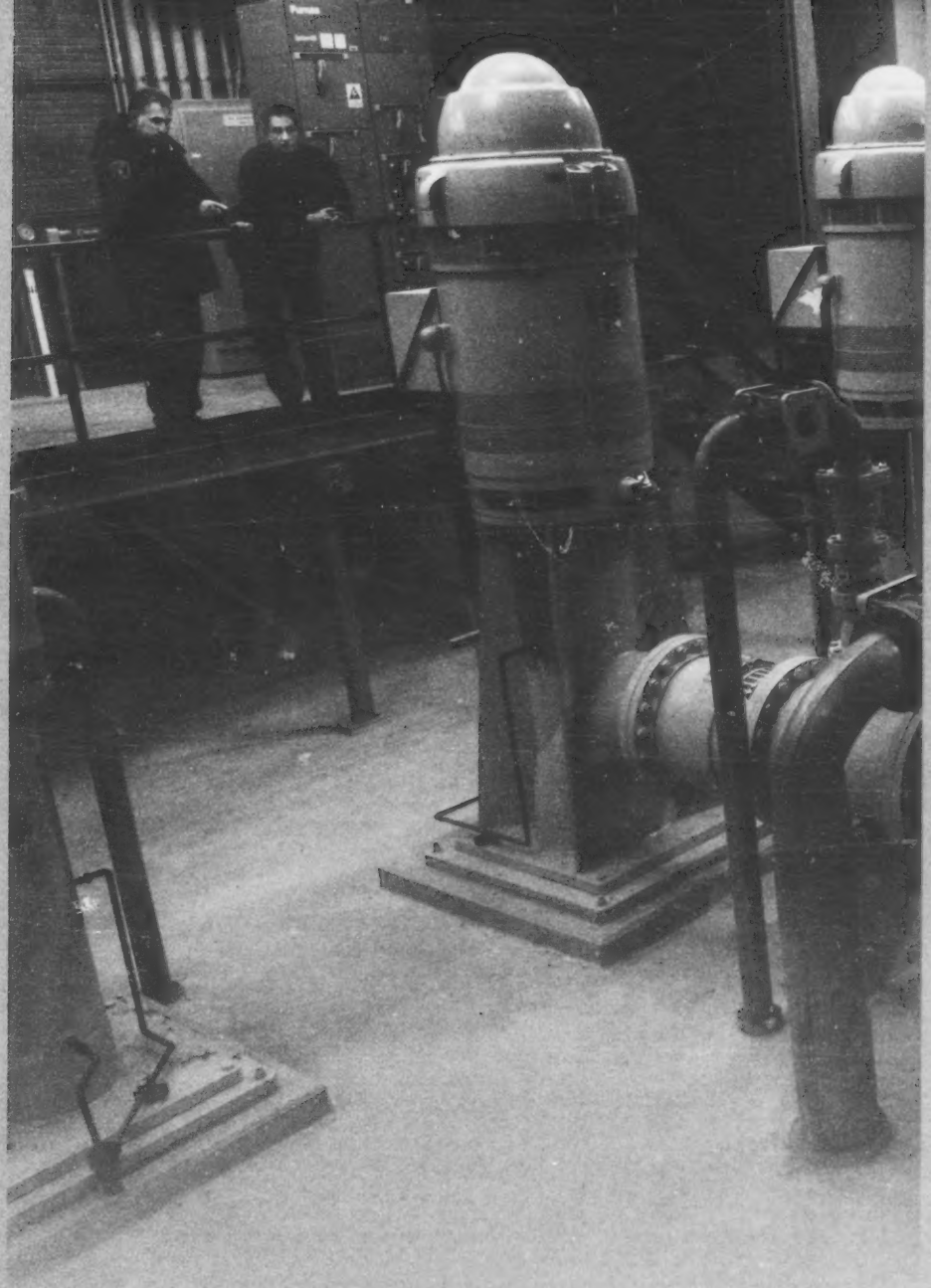
Some forms of blue-green algae are harmless, but others produce harmful toxins, the most common of which are microcystins. Swimming in water that contains this toxin causes itchy, irritated eyes and skin, while drinking contaminated water can cause headaches, fever, diarrhea, abdominal pain, nausea and vomiting. Even more serious health problems can occur when large quantities are consumed.

Once they are present in the water, blue-green algae toxins can be difficult to remove. Special filtration systems and secondary treatment processes such as oxidation, granular activated carbon or membrane filters are effective at treating water contaminated with blue-green algae toxins, but these technologies are used mainly in large water treatment plants. Smaller systems with minimal or no water treatment are more vulnerable, and the water purification methods they rely on may not be effective on blue-green algae. For example, using herbicides, copper sulphate or other algaecides actually breaks open the algae cells and releases more toxins into the water. Boiling the water or treating it with chlorine can have the same effect, and water jug filtration systems are not effective at all.

The best approach to reducing the potential health threat from blue-green algae in our drinking water is prevention. By controlling or eliminating the additional nutrients that we put into Ontario's surface water bodies, we can effectively reduce the number and severity of the large algae blooms that occur, and thus reduce the potential for microcystins and other contaminants in our water. The ministry has set the Ontario Drinking Water Quality Standard for microcystin-LR at 0.0015 mg/L, which is the equivalent of 1.5 parts per billion, because of its potential to harm human health.

The Ministry of the Environment has been studying blue-green algae and other emerging pathogens with technical and scientific specialists working in both the laboratory and in the field to monitor, track, assess and carry out research into algae-related drinking water issues. The ministry performs this fundamental research to better understand the factors that lead to algae blooms, and to help predict when they will be formed.

If you suspect a blue-green algae bloom, you should assume that toxins are present, and call the ministry's Spills Action Centre at 1-800-268-6060. If you are not sure about the safety of water for drinking during an algae bloom, the ministry recommends that you use alternative water sources, such as bottled, carted or tanked water. **For more information on blue-green algae, contact the ministry's Public Information Centre at 1-800-565-4923 or see Health Canada's fact sheet at: www.hc-sc.gc.ca/ewh-semt/pubs/water-eau/cyanobacter_e.html**



There is an increase of 48 (7%) municipal drinking water systems that demonstrated 100 per cent regulatory compliance during 2006-07.

2006-07 Ministry Inspection Program

- *All 707 municipal residential drinking water systems in Ontario were inspected*
- *92 per cent of municipal residential drinking water systems received an inspection rating greater than 90 per cent*
- *All municipal residential drinking water systems that received an order in 2005-06 or 2006-07 are in full compliance*

The results of the Ministry of the Environment's 2006-07 inspection program of municipal residential drinking water systems and licensed drinking water testing laboratories are an important performance indicator of these systems. In 2006-07, the ministry's inspection program demonstrated that Ontario's municipal residential drinking water systems and licensed water testing labs are well operated and managed. The inspection results are also one of the factors that must be considered in assessing the quality and safety of a community's drinking water.

Assessing the Performance of Municipal Residential Drinking Water Systems

While the major role of the ministry's drinking water inspection program is to confirm that municipal residential drinking water systems are operating in compliance with provincial regulations, annual inspection reports are not the only factor used to assess overall system performance. Other important factors include the effectiveness with which the system responds to correct any problems identified as a result of adverse test results throughout the year, as well as the overall drinking water quality, as compared to the Ontario Drinking Water Quality Standards Regulation (O.Reg. 169/03).

From this perspective, the Ministry of Environment's inspection program works alongside other elements of the drinking water safety net—such as timely, reliable testing, the process for immediate notification and corrective action in the event of an Adverse Water Quality Incident (AWQI), and rigorous enforcement of provincial regulations—to safeguard drinking water quality and protect public health. All of these components are discussed throughout this section.

Tapping In

Key Findings

- All 707 municipal residential drinking water systems in Ontario were inspected during 2006-07.
- 92 per cent (655 of 710) of inspections achieved an inspection rating of more than 90 per cent.
- 40 per cent (281 of 710) of all municipal residential drinking water system inspection ratings achieved 100 per cent.
- 23 orders were issued to 20 municipal residential drinking water systems to correct non-compliance or prevent a potential health hazard.
- 44 orders were issued to 41 non-municipal year-round residential drinking water systems, and systems serving designated facilities.
- Three orders were issued to three Local Services Boards' Drinking Water Systems.

Conducting Drinking Water System Inspections

The Ministry of Environment has formal protocols to help ensure that every inspection is carried out in a consistent and rigorous manner. The inspection protocols are built on about 140 possible regulatory questions that are grouped into 14 distinct modules, to cover the entire range of potential regulatory compliance issues. The ministry's inspectors can thus select questions that are relevant to the municipal residential drinking water system they are inspecting, taking into account local factors such as the drinking water source, the type of drinking water system being inspected (distribution or treatment, or combined), and the type of inspection being carried out (i.e., focused or detailed).

Focused Versus Detailed Inspections

Since annual inspections began in 2000, municipal residential drinking water systems have been increasing their compliance with Ontario's drinking water legislation. Some municipal residential drinking water systems, depending on their regulatory compliance record, tend to require more time to inspect than others. Systems that have more potential or identified non-compliance issues take more time to inspect, while those that have been compliant with regulatory requirements over a period of several years will take less time. As a result, the ministry has developed two different types of inspection formats: focused and detailed.

In the past, all municipal residential drinking water systems received a detailed inspection. Beginning in 2003, however, for municipal residential drinking water systems that have been fully inspected three times in a row with no identified deficiencies, the ministry has conducted focused inspections that examine only key elements of the system. Focused inspections involve the same regulatory questions related to treatment, sampling, and responding to adverse test results, but put less emphasis on administrative matters. The protocol for focused inspections is flexible so that if an inspector does find any health-related non-compliance deficiencies, the inspection process reverts to a detailed inspection.

To carry out an inspection, the inspector begins with a pre-inspection, which includes reviewing the system's files and collecting historical information relevant to the inspection. Once the pre-inspection is complete, the inspector contacts the municipality (if inspection is announced) to arrange a date and time to ensure that the appropriate staff are available for the physical inspection and file review of on-site data. During the physical inspection and file review, the inspector endeavours to get answers to all the inspection protocol questions that apply to the municipal

residential drinking water system being inspected. The inspector then drafts a written inspection report.

In all cases, the inspector contacts the system's owner or operator after completing a draft report, to clarify any technical issues before finalizing the inspection report. The municipality has five days to review the report to ensure that there are no technical errors. When the report is completed, it clearly identifies any areas of non-compliance and the actions needed to address them. Under the Compliance and Enforcement Regulation (O. Reg. 242/05), the inspector is required to provide a copy of the final report within 45 days of its completion to:

- The owner of the drinking water system;
- The operating authority, if any;
- The local Medical Officer of Health;
- The conservation authority (CA) where the drinking water system is located, or if there is no CA, the local office of the Ministry of Natural Resources; and
- The responsible Director at the Ministry of the Environment.

Understanding the Ministry's Risk-Based Inspection Rating Process

The Ministry of the Environment has developed a risk-based inspection rating process that provides a quantitative measure of inspection results. This enables the ministry to compare the performance of municipal residential drinking water systems across the province. The rating process is a tool to help the ministry hone in on problem areas or issues where more work needs to be done with the system owners and operators.

The Ministry of the Environment reports the inspection rating results for each municipal residential drinking water system in five-percentile bands, with ratings out of 100 per cent. The 2006-07 annual report contains two years of province-wide inspection rating data, which provides the ministry, the system owners and the public with the ability to identify non-compliance trends and opportunities for improvement.

The inspection rating process was developed to assess both system performance and the risk of any non-compliance. For every question the inspector asks during the inspection, an expert panel determined two factors about the question: the likelihood of non-compliance, and the consequence of non-compliance. The accepted formula for calculating risk is as follows:

Risk = Likelihood x Consequence

The likelihood of non-compliance is easy to determine—since the answer to every compliance question is either yes or no, depending

Drinking water plant operator checking a control panel.

The inspection rating process was developed to assess both system performance and the risk of any non-compliance.

The more closely the system complies with all required provincial regulations, the higher the rating.

on whether the system is in compliance or not in compliance.

Calculating the consequences of non-compliance is more complex since not all compliance issues have the same potential consequences. For example, the failure to post a provincial operating certificate in a prominent place at the plant results in non-compliance with provincial regulations, but has minimal consequences to human health. However, there are other types of non-compliance—such as a failure of the disinfection system—where the consequences could be much more severe. The ministry's inspection rating process therefore rates the consequences of non-compliance for each question on a sliding scale from one to four, where one represents the least severe consequence, and four represents the most severe.

The ministry then calculates an inspection rating for every municipal residential drinking water system in the province, based on three factors:

- The number of non-compliance findings in the inspection report;
- Their likelihood; and
- Their potential consequences.

The more closely the system complies with all required provincial regulations the higher the rating, with full compliance producing a rating of 100 per cent. A low rating does not mean that the drinking water being delivered by the drinking water system is unsafe, rather, it identifies areas where the operation of the drinking water system can be improved to better meet Ontario's regulatory requirements.

The Water Quality section of this annual report, starting on page 33, provides the results of local drinking water tests, and tests carried out during 2006-07 confirm that Ontario's drinking water continues to be very safe for consumers.

To get a balanced understanding of how well their local drinking water system is performing, consumers need to consider both the inspection rating the municipal residential drinking water system received and the results of the water quality tests that were performed on their system.

Municipal Residential Drinking Water System Inspection Results

More than 80 per cent of the people in Ontario get their drinking water from municipal residential drinking water systems. Others can get their drinking water from non-municipal year-round residential systems (which includes small private systems serving more than five homes), or from systems serving designated facilities. These systems fall under Ontario regulations. The Ministry of the Environment's inspection program focuses on confirming compliance with provincial acts and regulations, and includes inspection of the source, treatment and distribution components of the system, as well as drinking water system management practices.

The ministry follows up with the drinking water system's owners and operators to resolve any areas of non-compliance that were identified in the inspection report. Any health-related compliance issues are addressed immediately and the ministry's inspectors work with the drinking water system's owners and operators to resolve any other compliance issues.

During 2006-07, the ministry completed its planned annual inspection program of all 707 municipal residential drinking water systems in Ontario, which generated a total of 710 inspection ratings. Of those inspection ratings, 92 per cent (655 of 710) achieved a rating greater than 90 per cent.

In any given year, the number of inspections may not align exactly with the number of systems and inspection ratings due to a number of factors, which include systems amalgamating, one inspection which may cover more than one system (e.g. where a water treatment plant and distribution system are registered as two systems, but are inspected together as one system), or one system which may be inspected as two separate systems.

Thus for 2006-07, there were 712 inspections of 707 municipal residential drinking water systems, which produced 710 inspection ratings. Of the 710 inspection ratings, 40 per cent (281 of 710) achieved an inspection rating of 100 per cent— which means that the drinking water system being inspected met all regulatory requirements during the inspection. This represents a seven-per-cent increase, or 48 systems, in the number of inspections that achieved a rating of 100 per cent, compared to 2005-06. Of the inspection ratings in common between 2006-07 and 2005-06 (688), 315 ratings—or 46 per cent—improved in 2006-07 compared to the previous year.

The significant increase in the number of municipal residential drinking water systems that achieved 100 per cent regulatory

46 per cent of inspection ratings improved in 2006-07 compared to the previous year.

Tapping in

ENSURING ACCOUNTABILITY

Meeting the Requirements of Ontario's Compliance and Enforcement Regulation

Under Ontario Regulation 242/05, the Ministry of the Environment is required to fulfil a number of specific responsibilities with respect to inspecting municipal residential drinking water systems and licensed drinking water testing laboratories. During 2006-07, the ministry fulfilled all of its responsibilities under this regulation, by:

Municipal Residential Drinking Water Systems

- inspecting all 707 municipal residential drinking water systems;
- sending an inspection report to the appropriate persons within 45 days of the inspection's completion;
- ensuring that at least one out of every three inspections was unannounced (in 2006-07 239 of 712* inspections were unannounced);
- responding as required to any reported adverse test results or other reported problems; and
- taking mandatory action within 14 days of finding a deficiency at a municipal residential drinking water system (or taking immediate action in the case of a present drinking water health hazard).

Licensed Drinking Water Testing Laboratories

- inspecting all 57 licensed laboratories at least twice during 2006-07;
- completing 126 inspections, including 57 that were unannounced (by regulation, at least one in two inspections must be unannounced);
- providing all laboratories with a report on the inspection within 45 days of the inspection's completion; and
- taking mandatory action within 14 days of finding an infraction at a licensed laboratory (or taking immediate action in the case of a present drinking water health hazard).

* See explanations of number of municipal residential drinking water systems, inspections and ratings on page 55.

compliance during the year is encouraging. The ministry intends to build on this momentum as it continues working with its partners to reach the goal of 100 per cent compliance throughout the province.

Twenty-one per cent of inspection ratings in 2006-07 remained unchanged and 34 per cent received a lower rating. The ministry works closely with the owners and operators of municipal residential drinking water systems that have non-compliance issues, to ensure the issues are understood and to promote continuous improvement. When the ministry's inspectors identify non-compliance issues in a municipal residential drinking water system, they respond by taking a range of actions that can include:

- Providing an inspection report to the owner and the operating authority that identifies areas of non-compliance and how to resolve them;
- Discussing crucial inspection findings with the owner/operator;
- Providing the inspection report to other affected parties, including the local medical officer of health and the local conservation authority;
- Providing education and outreach on matters not directly related to drinking water safety, such as administrative non-compliance issues;
- Issuing Provincial Officer Orders where corrective measures are needed that require the drinking water system's owners and operators to take action; and
- Referring incidents to the ministry's Investigations and Enforcement Branch if warranted.

The ministry may also issue a Notice of Emergency Response under

SYSTEM PROFILES: Belleville Water Treatment Plant

The Belleville Water Treatment Plant is a city-owned facility that is the primary source of drinking water for Belleville's more than 40,000 residents and businesses. The plant provides an average of 26 million litres of water per day to the city's distribution system.

Belleville's water treatment plant draws surface water from the Bay of Quinte—a long inlet on the north side of Lake Ontario—but most of the water in the bay actually flows in from the Trent River. The Belleville plant has two intake pipes that extend more than 400 metres out into the bay at a depth of 5.5 metres.

Before entering the plant, the raw water passes through a coarse debris screen. On a seasonal basis, potassium permanganate is added to the intakes to control zebra mussels and reduce the water's taste and odours. Low-lift pumps then move the water to the plant's pre-treatment section where rapid mixing chambers combine the water with a coagulant, aluminum sulphate.

After pre-treatment, the water passes through flocculation tanks to a dissolved air flotation system. Final treatment includes plate settlers and dual-media, granular activated carbon gravity filters. Post-treatment disinfection and fluoridation of the water take place in an on-site, in-ground, clear well reservoir before distribution. The plant also has a dedicated wastewater treatment facility for process water, which discharges de-chlorinated liquid removed from settled sludge to the Bay of Quinte, and sends residual sludge to Belleville's sanitary sewer system.

The Bay of Quinte is a relatively shallow water body and the strong winds in the area often cause the water in the bay to turn over. As a result, the raw water entering the Belleville plant is often quite turbid. As well, the pH levels in the Bay of Quinte are practically neutral because of the vast amount of natural limestone in the area. This means that fewer chemicals are needed in the plant's treatment process.

Belleville's water treatment plant was the first and only facility in Canada to use a dissolved air flotation system.

TABLE 13: Municipal Residential Drinking Water Systems by Inspection Rating Range for 2006-07 and 2005-06

Inspection Rating Range*	Number of Systems in Range 2006-07**	Number of Systems in Range 2005-06***
100%	281	233
>95% to 100%	257	279
>90% to 95%	117	137
>85% to 90%	26	33
>80% to 85%	16	12
>75% to 80%	5	10
>70% to 75%	4	7
>65% to 70%	2	1
>60% to 65%	0	0
>55% to 60%	1	0
>50% to 55%	1	0
TOTAL	710	712

* Some inspections actually included two systems (e.g. where a water treatment plant and distribution system are registered as two systems, but are inspected together as one system). The converse also happens, where one registered system is inspected as two separate systems.

** For 2006-07 these factors resulted in 712 inspections for 707 municipal residential drinking water systems generating 710 ratings.

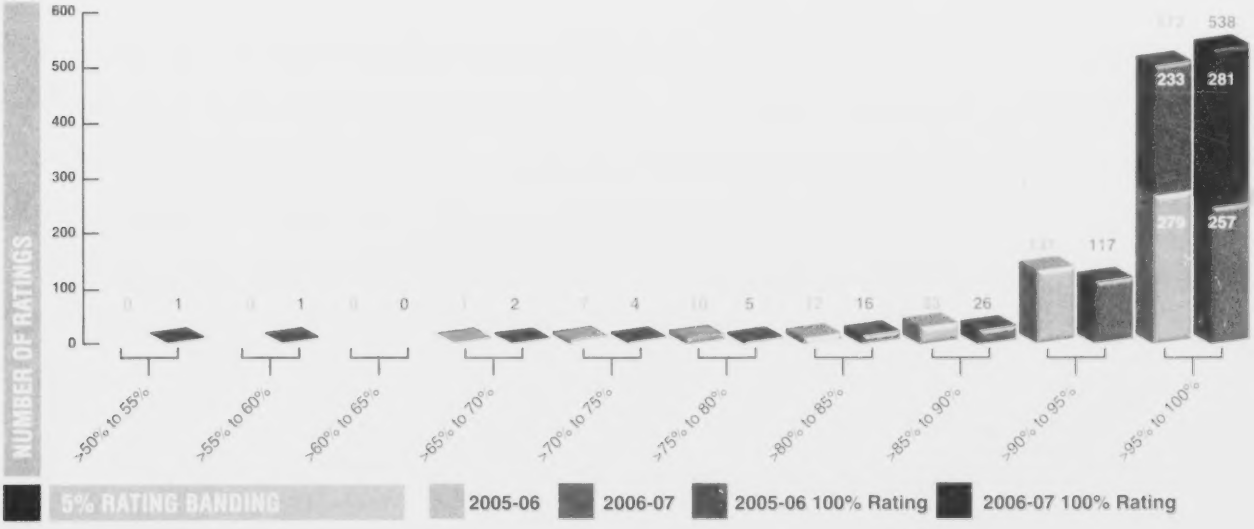
*** For 2005-06 these factors resulted in 709 inspections for 706 municipal residential drinking water systems generating 712 ratings.

the Safe Drinking Water Act, 2002 (this authority allows the ministry to transfer control of the municipal residential drinking water system to another agency, when the current owners and operators are unable to provide safe water). This authority has never been used.

Table 13 and Chart 7 show the distribution of inspection ratings in bands of five per cent for 2006-07 and 2005-06. Appendix 1, starting on page 78, presents a listing of Ontario's municipal residential drinking water systems, indicating:

- The municipality where the drinking water system is located;
- The name of the drinking water system;
- The inspection rating (in five-per-cent bands) for each system for 2006-07; and

CHART 7: Distribution of Municipal Residential Drinking Water System Inspection Ratings in 5 Per Cent Bands 2005-06 and 2006-07.



- The percentage of all the drinking water quality tests undertaken by the system's owners and operators that met Ontario's Drinking Water Quality Standards for 2006-07.

The results of the inspection ratings for municipal residential drinking water systems during 2006-07 are also accessible through the Drinking Water Ontario portal at www.ontario.ca/drinkingwater.

Fewer Deficiencies Found

Ontario's Compliance and Enforcement Regulation (O. Reg. 242/05) requires the Ministry of the Environment to take mandatory action when it finds a deficiency during its inspections of municipal residential drinking water systems. A deficiency is defined in the Definitions of Deficiency and Municipal Drinking Water System Regulation (O. Reg. 172/03) as a violation of specified provisions of Section 18 of the Safe Drinking Water Act, 2002 and certain of its regulatory provisions, where the violation is deemed to pose a drinking water health hazard.

The mandatory action taken in response to a deficiency may include steps such as issuing or amending a Provincial Officer Order or other Director's Order, and/or referring the matter to the ministry's Investigations and Enforcement Branch, which may issue an Information and Summons under the Provincial Offences Act. Under the Compliance and Enforcement Regulation (O.Reg 242/05), the ministry is required to take action to address any deficiencies found in municipal residential drinking water systems within 14 days of their discovery. Where the deficiency is deemed to represent an "immediate health hazard", the ministry is required to take mandatory action right away.

During 2006-07, the ministry inspected all 707 municipal residential drinking water systems in the province, and found only three deficiencies that were determined to be drinking water health hazards, as defined in O. Reg. 170/03. This represents a significant improvement over the previous year, when a total of 14 deficiencies were identified. It also indicates that municipal residential drinking water systems throughout the province are working toward meeting the ministry's and municipalities shared goal of continuous improvement.

Provincial Officer's Orders

When a Provincial Officer's Order is issued to a drinking water system, this does not necessarily mean that the water from the drinking water system is unsafe to drink. Orders are issued for a variety of reasons—sometimes when there is no immediate direct threat to health—and mean that a system is not complying with provincial regulations and must take action to correct the situation.

Only 2.8 per cent of the drinking water systems inspected received orders during 2006-07.

In 2006-07, the ministry's 712 inspections of municipal residential drinking water systems resulted in a total of 23 orders issued to 20 municipal residential drinking water systems. This compares to 2005-06, when 39 orders were issued to 43 drinking water systems. Only 2.8 per cent of the drinking water systems inspected received orders during 2006-07, compared to more than six per cent the previous year. Seven of the orders in 2006-07 were preventative orders, issued to four systems to prevent anticipated incidents of non-compliance (see Table 14 for details).

During seven inspections of drinking water systems operated by Local Services Boards (LSBs)—which provide local services in areas that have no municipal structure—the Ministry of the Environment issued three orders to three LSBs' drinking water systems. Appendix 2, starting on page 97, provides further details of contravention and preventative orders that were issued to municipal residential drinking water systems and LSBs during 2006-07.

Resolving Compliance Issues Effectively

During 2005-06, the ministry's inspection program resulted in the issuance of 39 orders to 43 municipal residential drinking water systems. During 2006-07, the ministry issued 23 orders to a total of 20 municipal residential drinking water systems. The ministry followed up on these orders by working with the systems' owners and operators to address the compliance problems. As a result, all 39 of the orders in 2005-06 and 23 orders in 2006-07 have since been resolved and the systems are in full compliance with respect to the violations that resulted in the orders.

In 2005-06, 12 of the 39 orders issued and seven of the 23 orders issued in 2006-07 were preventative orders. All preventative orders were resolved and those systems are in compliance.

In 2005-06, four drinking water systems operated by LSBs received four Provincial Officer's Orders from the Ministry of the Environment, and the ministry followed up on these orders during

TABLE 14: Municipal Residential Drinking Water Systems (MRDWS) that Received Orders in 2006-07, 2005-06 and 2004-05

	2006-07	2005-06	2004-05
Total number of MRDWS with orders	20*	43**	77
Total number inspections of MRDWS	712	709	729
Percentage of MRDWS that were inspected and received orders	2.8%	6.1%	10.6%

* 4 systems were issued preventative orders in 2006-07
** 12 preventative orders were issued in 2005-06

the 2006-07 year. As a result of this work, two of the four drinking water systems operated by LSBs that received orders were re-inspected and found to be fully compliant. The ministry is continuing to work with the other two systems to achieve further progress toward full compliance.

During the 2006-07 annual inspection program, the ministry issued three orders to three drinking water systems owned by LSBs. The three orders were issued to drinking water systems that also received orders during the 2005-2006 inspection year. One LSB is in compliance with their order, while the remaining two are continuing to work toward achieving that goal.

No preventative orders were issued to LSBs drinking water systems operated by LSBs in either 2005-06 or 2006-07.

Key Areas for Improvement

Each year, the Ministry of the Environment reviews the inspection reports for municipal residential drinking water systems to determine the key areas that offer opportunities for improvement in regulatory compliance. This list is based on risk, so that it reflects both the total number of drinking water systems that do not comply with regulatory requirements, and the potential for these non-compliance areas to pose a threat to the safety of the drinking water.

Tapping In

CROP Initiative Targets Education and Voluntary Compliance by Smaller Drinking Water System Owners

In August 2006, the ministry launched the Compliance/Registration Orientation Project (CROP), as part of its strategy to educate non-municipal drinking water system owners and operators, encourage voluntary compliance with provincial regulations, and help ensure these systems are registered in the ministry's Drinking Water Information System (DWIS) database.

The Ministry of the Environment hired eight, two-person teams to work on the CROP initiative between July 2006 and January 2007. The teams began by contacting system owners and operators to arrange a convenient time and location for a meeting. Most of the meetings took place in the owners' homes, and lasted between one and three hours.

By the end of each meeting, the owners registered their systems successfully in DWIS, had their responsibilities related to providing safe drinking-water carefully explained to them, and received plain-language guides and the names and numbers of people to contact about concerns or questions in the future.

As of March 31, 2007, 484 non-municipal year-round residential systems were registered in DWIS, including 115 that were registered during the CROP initiative. As well, 1,633 systems serving designated facilities were registered in DWIS as of March 31, 2007, including 62 that were registered during the CROP initiative.

During 2006-07, the key areas that offered opportunities for improvement are described in Table 15 and compared to 2005-06 and 2004-05.

While many municipal residential drinking water systems are already operating in 100 per cent compliance with provincial regulations, the findings on the top areas for improvement point to areas that all municipal residential drinking water systems in Ontario need to monitor carefully on a continuing basis.

The ministry is incorporating these areas for improvement in its ongoing operator training programs, and continues working with municipalities, owners and operators to address them.

TABLE 15: Key Areas For Improvement For Municipal Residential Drinking Water Systems

Area for Improvement	2006-07	2005-06	2004-05
The owner did not ensure that equipment was installed in accordance with the Certificate of Approval.	✓	✓	✓
The operations and maintenance manuals did not meet the requirements of the Certificate of Approval.	✓	✓	✓
Not all microbiological water quality monitoring required by legislation was being conducted.	✓	✓	✓
Not all physical/chemical water quality monitoring required by legislation was being conducted.	✓	✓	✓
Flow rates were not maintained below the maximum flow rates or the rated capacity identified in the Certificate of Approval.	✓		✓
Not all changes to the system registration information were provided within ten (10) days of the change.	✓		
When a well was constructed, the annular space around the casing was not adequately filled with sealing material.	✓	✓	
Not all required notifications of adverse water quality incidents were provided to the Spills Action Centre and Medical Officer of Health.	✓		
The owner/operator did not comply with all orders or other control documents that were issued between the date of the previous inspection and the date of this inspection.	✓	✓	
The operations and maintenance manuals did not contain plans, drawings and process descriptions sufficient for the safe and efficient operation of the system.	✓		✓
Records indicated that the chlorine residual levels in the distribution system were less than 0.05 mg/L free or 0.25 mg/L combined.	✓	✓	✓

SYSTEM PROFILES: Pickle Lake Water System

The Township of Pickle Lake—located approximately 534 kilometres north of Thunder Bay at the end of Highway 599—has deep roots in Canadian history. In the late 18th century, the Hudson's Bay Company established a local trading post called Osnaburgh House to the south of Pickle Lake on the shores of Lake St. Joseph, and the fur industry continued to be the area's main source of economic activity until the discovery of gold in the late 1920s. Since then, several area mines have opened and closed, causing the local population to fluctuate significantly through the years.

Today, about 450 residents rely on the Pickle Lake water distribution system for drinking water. This groundwater system has 213 residential connections and 115 commercial connections, and a capacity of 46 litres per second (3,931 cubic metres per day). The system—which is owned and operated by the Corporation of the Township of Pickle Lake—was commissioned in 1978, and draws its water from two drilled wells, both 27 metres deep, located on the grounds of a vacant mobile home park at the eastern edge of the community.

The main well—Well Number 1—draws water up through a 300-mm diameter pipe, and both the well and its vertical turbine pump are housed in an enclosed building called Pump House 1. The building also contains the system's treatment and monitoring equipment and a 150-kW standby diesel generator.

Well Number 2 is a groundwater production well equipped with a vertical turbine pump, all of which is enclosed in Pump House 2. Raw water is directed to Pump House 1 for treatment.

Before distribution, the raw groundwater is disinfected with chlorine, using a chlorine solution tank and chemical metering pump. There are actually two metering pumps in the building, but one of them is a standby unit that is used during emergencies and routine maintenance. Each metering pump is capable of delivering sodium hypochlorite solution at a rate of 4.05 litres per hour.

The pump house is also equipped with a free chlorine analyzer, a turbidity analyzer and a flow meter. The chlorine and turbidity analyzers are connected to the well pumps' common discharge header, downstream of the port used to apply sodium hypochlorite.

To ensure that the water and disinfectant have sufficient contact time, the water passes through a 67-metre-long, 900-mm diameter pipe installed below ground, west of the pump house. The system has no reservoir for treated water, so the water is pumped directly into the distribution system. Excess water is stored in the township's water tower, which is located several kilometres from the treatment plant.

Non-Municipal Year-Round Residential Drinking Water Systems and Systems Serving Designated Facilities Inspection Results

In the spring of 2006, the Ministry of the Environment developed a tightly scoped, risk-based inspection protocol for non-municipal systems.

During 2006-07, the ministry's inspections of non-municipal year-round residential systems and systems serving designated facilities resulted in 44 orders being issued to a total of 41 systems, compared to 40 orders issued to 40 systems in 2005-06. The ministry undertook proactive inspections of targeted drinking water systems as part of an ongoing non-municipal inspection pilot project that focused on systems where drinking water quality issues have been identified in the past.

Promoting Compliance of Non-Municipal Drinking Water Systems

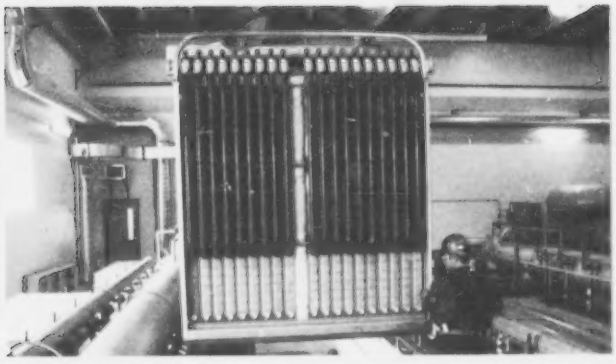
In 2006-07, the ministry undertook the Compliance/Registration Orientation Project (CROP), through which the ministry advised owners and operators of non-municipal drinking water systems of their legal responsibilities in the provision of safe drinking water. These systems are subject to the provisions of the Safe Drinking Water Act, 2002 (SDWA) and the province's Drinking Water Systems Regulation (O. Reg. 170/03). The ministry also encouraged them to register their systems and to comply with provincial regulations (see Tapping In box on page 61).

In the spring of 2006, the Ministry of the Environment developed a risk-based inspection protocol for these non-municipal systems. The protocol included:

- Preventative education and outreach efforts that also promote awareness and consistency;
- A tightly scoped, flexible inspection program; and
- A range of enforcement tools, focusing on compliance assistance, to better enable ministry inspectors to work with smaller system owners and operators to achieve regulatory compliance. The tools range from informal discussions of compliance issues with system owners and operators, to providing information and education on compliance, to issuing Provincial Officer's Orders requiring action.

Under this initiative, system owners and operators were encouraged to register their systems in the ministry's drinking water information system database (DWIS), and to voluntarily submit a compliance action plan. Where necessary, the ministry's inspectors used other parts of the strategy, which involved various levels of mandatory compliance and enforcement.

SYSTEM PROFILES: Bare Point Water Treatment Plant, Thunder Bay



The City of Thunder Bay—created in 1970 through the amalgamation of the former "twin" cities of Fort William and Port Arthur—lies on the northwest shore of Lake Superior. Thunder Bay's 125,000 residents get their drinking water from two municipal water treatment plants, Loch Lomond and Bare Point. However, in 2003, after completing a Class Environmental Assessment (Class EA) process, the city's Council decided to retire the Loch Lomond plant, and to upgrade and expand the Bare Point facility to provide all the community's drinking water from a single source.

Thunder Bay's drinking water distribution system includes five storage facilities—the Hodder Avenue standpipe, Duke Street reservoir, McIntyre reservoir, Hazelwood reservoir and the newly constructed Rockcliff reservoir. While some parts of the distribution system date back to 1909, the average age of the pipes is about 50 years old. Water can be moved back and forth between the two distribution systems as needed through the James Street and Vickers pumping stations.

The retirement of the Loch Lomond treatment plant took place in February 2008. The Bare Point plant—originally built in 1903, and expanded in 1970 and again in 2007 to its current capacity of 113.5 million litres per day—will then supply the entire city's drinking water. Bare Point's treatment methods include pre-chlorination, coagulation-flocculation, membrane ultrafiltration and post-chlorine disinfection. The plant's unique ultrafiltration system represents state-of-the-art technology.

The ultra-filtration system uses long, thin straws to suck up water and draw it through tiny holes in membranes that filter out all but the most microscopic particles. The system has five trains of ultrafiltration membrane tanks, each with 10 filter cassettes. There is also a membrane cleaning system that uses sodium hypochlorite and citric acid (backwash and clean-in-place), sodium bisulphate (de-chlorination) and sodium hydroxide (waste neutralization).

As part of the Bare Point plant upgrade, Thunder Bay also built the Rockcliff Water Supply Reservoir, an in-ground facility that was commissioned in November 2006. The new reservoir has a total capacity of 28.5 million litres, and includes re-chlorination equipment, baffle walls, level sensors and overflow level alarm, a 750-mm diameter emergency overflow pipe and reservoir drains for maintenance.

Bare Point's ultrafiltration and membrane cleaning equipment is located in a new, 2,100-square-metre building that also houses a chemical feed system, clear water reservoir and high-lift pumping, standby power generators, heating, ventilation and air conditioning equipment, control room and related facilities and waste water treatment system. Waste water from the plant is sent to Thunder Bay's sewer system for further treatment at the municipal water pollution control plant before being returned to Lake Superior.

The Ministry of the Environment's innovative approach to promoting regulatory compliance by smaller, non-municipal residential drinking water systems was welcomed by system owners and operators across the province. The ministry is committed to continuing its work with these partners, and to pursuing the goal of continuous improvement in the future.

Tapping in

Key Findings

- The Ministry of the Environment carried out a total of 126 inspections during 2006-07 at the 57 licensed drinking water testing laboratories, including 57 unannounced inspections.
- 10 inspections during the year were carried out in response to public complaints or concerns of ministry staff.

Licensed Laboratory Inspection Results

There are 57 licensed water testing laboratories in Ontario, and the Ministry of the Environment is required to inspect all of them at least twice a year, under the Compliance and Enforcement Regulation (O. Reg. 242/05). At least one out of every two ministry inspections must be unannounced.

As with municipal residential drinking water systems, the ministry has a formal protocol that its inspectors follow when they carry out a laboratory inspection. The protocol focuses on health-related regulatory compliance, administrative compliance and best practices. The primary focus during laboratory inspections is to confirm that they are meeting Ontario's regulatory requirements and complying with any special conditions that may be attached to their licence.

Inspectors tailor each inspection to cover the specific tests that are performed by each laboratory, since different labs are licensed to test for different drinking water quality parameters. Some of the province's larger facilities perform as many as 150 different test methods, covering more than 900 different parameters.

Within 45 days of the inspection, the ministry is also required by provincial law to provide a report to the laboratory that identifies problem areas and cases of non-compliance, and provides direction on how these issues can be resolved. If a regulatory infraction is identified, mandatory action must be taken to address the problem within 14 days. If the infraction involves a drinking water hazard, the ministry must take mandatory action immediately.

2006-07 Laboratory Inspection Summary

During 2006-07, the Ministry of the Environment's inspection team completed a total of 126 inspections of licensed drinking water testing laboratories—exceeding the regulatory requirement of at least two inspections per facility per year, with at least one of those inspections unannounced. A total of 59 inspections carried out during the year were announced, while 57 were unannounced, and 10 were responsive (i.e., carried out in response to public complaints or ministry staff concerns). The ministry carried out approximately half as many unannounced inspections during 2006-07 compared to the previous year, when almost all the inspections undertaken were unannounced. Only one announced inspection was carried out in 2005-06, compared to 59 the following year. A summary of the number of inspections of licensed drinking water laboratories carried out from 2004-05 to 2006-07 is given in Table 16.

TABLE 16: Summary of Laboratory Inspections in 2006-07, 2005-06 and 2004-05

Inspection Type	2006-07 Inspections Completed 57 Licensed Labs	2005-06 Inspections Completed 57 Licensed Labs	2004-05 Inspections Completed 57 Licensed Labs
Unannounced	57	113	60
Announced (issue resolution)*	-	5	5
Announced	50	1	57
Responsive	10	15	14
Total	117	134	136

* Laboratory inspector performs an in-depth data and document review based on possible non-compliance raised by staff observations.

The large number of unannounced inspections in 2005-06 was due to a one-time focus on a very detailed technical review of the licensed methods employed by drinking water testing laboratories for that fiscal year. In a normal laboratory inspection cycle the number of announced and unannounced inspections are relatively equal.

During the 2006-07 inspection cycle, licensed drinking water testing laboratories achieved 100 per cent compliance with health-related requirements. All required actions issued to the licensed laboratory community were related to either administrative matters or best practices.

Five Orders Issued

The ministry's inspection team issued five orders to licensed drinking water testing laboratories in 2006-07. By contrast, no orders were issued during the 2005-06 year. All five of the orders issued during 2006-07 were resolved successfully within several days of being issued. Details of the orders issued to laboratories are provided in Appendix 2-D on page 101.

Four orders were issued to one laboratory organization that operates at four different locations. The orders were all related to a single infraction of Section 12(1) of Ontario Regulation 248/03 for authorization of reporting analytical results. One order was issued to a laboratory for non-compliance with a previous voluntary abatement finding.

Key Areas for Improvement

The ministry reviews the inspection reports for licensed water testing laboratories every year, to determine the key areas that offer opportunities for improving regulatory compliance. During the inspections carried out during 2006-07, licensed drinking water testing laboratories achieved

The ministry has developed a formal protocol that its inspectors follow when they carry out a laboratory inspection.

100 per cent compliance with all of the province's health-related requirements. The areas for improvement are all related either to administrative or best practice issues. As a result, the areas for improvement within the licensed laboratory community are ranked on the basis of frequency of occurrence.

The information used to build the top areas for improvement list for licensed laboratories comes from the results of one planned, unannounced inspection during the year, and is based on the number of "no" answers to the questions that were asked at each laboratory during the inspection cycle.

During 2006-07, the key areas that offered opportunities for improving regulatory compliance included:

- Maintaining procedures for removing wrong data from the Drinking Water Information System (DWIS);
- Maintaining procedures for the follow-up of failed uploads to DWIS to ensure information is uploaded;
- Documenting/recording the verification of pH less than (<) 2 for metal samples before analysis;
- Maintaining procedures for the laboratory to immediately inform the Spills Action Centre, local Medical Officer of Health and drinking water system that an error has occurred when reporting an Adverse Water Quality Incident (AWQI);
- Maintaining procedures for how the quarterly trihalomethane

SYSTEM PROFILES: Mini Lakes Water Supply

Mini Lakes is a mobile home development located about 10 kilometres south of Guelph. Currently, the community's 400 residents get their drinking water from Mini Lakes Water Supply, a privately owned system that supplies the site's 245 homes.

Mini Lakes has three wells that provide groundwater to the development. As the wells are located within 500 metres of a surface water body, ten monitoring wells have been built around the area to monitor any changes in the groundwater's quality.

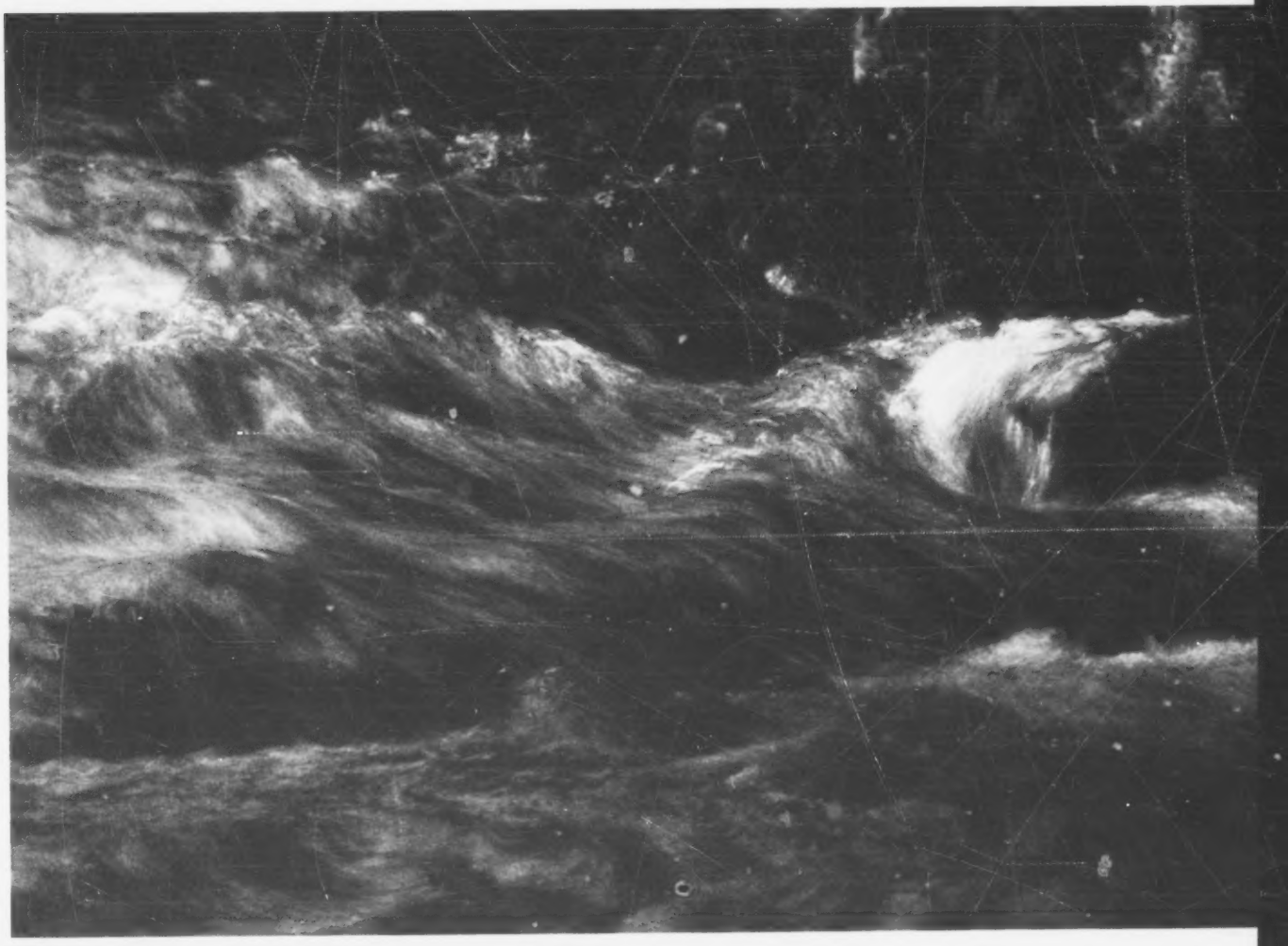
The groundwater from each of the Mini Lakes wells is treated using liquid sodium hypochlorite with a contact pipe, multi-media filtration and pressure retention tanks, before going to the distribution system. Other elements of the system include continuous on-line chlorine analyzers with relay alarms following contact time and filtration, and dual chlorine pumps with automatic switchover capability. The system's operators use a software management program to monitor data and provide them with remote access to any system alarms.

Owned by the Mini Lakes Residents Association and represented by its Board of Directors, the system recently received an award from the American Water Works Association for water conservation.

(THM) results are tracked for the drinking water system;

- Maintaining a policy for analyzing samples which have expired in-house;
- Documenting that under O. Reg. 252/05, the presence of "overgrown" is an AWQI for *E. coli*;
- Maintaining staff training records stating that the appropriate analysts have been trained to follow this procedure;
- Notifying and providing a copy of the order or decision for revocation or suspension of accreditation to the drinking water system, who could be reasonably affected by the suspension or revocation; and
- When drinking water samples are incorporated into an analytical run, they must be processed without undue delay and this procedure must be documented.

During the 2006-07 inspection cycle, licensed drinking water testing laboratories achieved 100 per cent compliance with health-related requirements.



Providing safe, high quality drinking water is a shared responsibility between many partners and stakeholders throughout Ontario.

Protecting our environment. Ontario

Looking Ahead

Ontario's drinking water safety net is working to safeguard the province's drinking water.

This annual report makes it clear that maintaining the high quality of Ontario's drinking water is a significant undertaking. The Ministry of the Environment is committed to working with its partners and stakeholders to achieve this goal.

The ministry will continue implementation of the new Municipal Drinking Water Licensing Program for municipal residential drinking water systems. Ministry staff will continue to work closely with owners, operators and other drinking water sector stakeholders to fine-tune program details. Every municipal residential drinking water system is expected to have a licence by 2012.

Ministry staff will also work with municipal residential drinking water system owners and operators to achieve our goal of 100 per cent regulatory compliance.

The ministry will broaden its work with the owners and operators of non-municipal year-round residential drinking water systems and systems serving designated facilities. Inspecting these systems on an ongoing basis will give inspectors the opportunity to tell owners and operators about their legal responsibilities, and promote regulatory compliance among these systems across the province.

The ministry will move forward on transferring the oversight of non-residential and seasonal residential drinking water systems not serving designated facilities to the Ministry of Health and Long-Term Care and public health units. This transfer will introduce a risk-based, site-specific approach to the treatment and monitoring of drinking water, while maintaining public health protections for users of these systems in all parts of the province. The two ministries will continue working together on regulations and planning for the transfer.

As noted in this report (on page 15), the Ministry of the Environment introduced a Lead Action Plan in 2007. The next annual report will discuss the ministry's progress on implementing new regulatory requirements to test for lead in drinking water at the tap.

The Chief Drinking Water Inspector looks forward to receiving feedback on this report and ideas for future editions. He can be reached at drinking.water@ontario.ca.

Progress on the implementation of Ontario's Clean Water Act, 2006 is accelerating. Source Protection Committees have been established to protect the lakes, rivers and aquifers that Ontarians rely on for their drinking water. This legislation makes Ontario a leader in drinking water source protection. It is one of the most important safeguards in the province's drinking water safety net. Its implementation will emphasize stewardship and shared responsibility for protecting our drinking water resources.

This report contains information about the performance of drinking water systems and the province's drinking water safety net. The Minister of the Environment reports annually on all of the Ministry's drinking water related activities. The Minister's Annual Reports can be found on the Drinking Water Ontario portal (www.ontario.ca/drinkingwater).

Ontario's drinking water safety net is working to safeguard the province's drinking water. Our drinking water is among the best protected in the world. Working together, we will keep it that way.

The Chief Drinking Water Inspector looks forward to receiving feedback on this report and ideas for future editions. He can be reached at *drinking.water@ontario.ca.*

Glossary

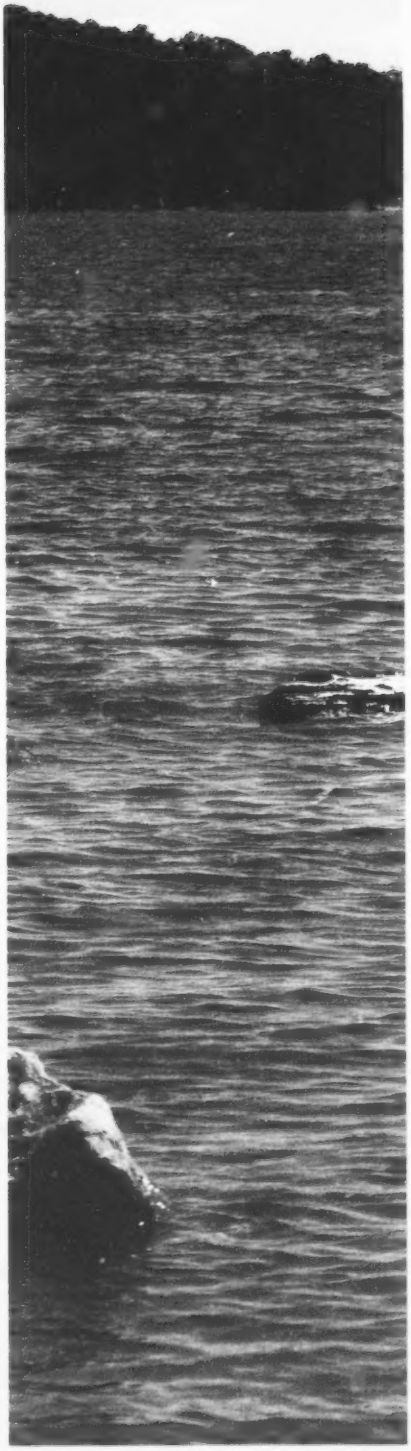
A	
Annular Space:	the space between the well casing and the wall of the drilled hole, or the space between the well casing and the conductor pipe.
B	
Backflow Preventer:	a mechanical device for a water supply pipe to prevent the backflow of water into the water supply system from the service connections.
C	
Cautioned Statement:	in the course of an investigation, an Investigator may ask a person suspected of committing an offence whether he/she wishes to give a statement regarding the alleged offence before charges are issued. If the Investigator has reasonable and probable grounds to believe that the person has committed the offence, the Investigator must first caution that person. A caution is administered either verbally or in writing to inform the person of the right to remain silent, the right to retain counsel before being interviewed and that anything said may be used as evidence against the person.
Certificate of Approval:	a legal instrument which permits the construction or alteration and operation of a drinking water system, or parts thereof. The ministry issues this document after an engineering review of the proposed facilities and when it is satisfied that the facilities will work as intended and will be able at all times to supply drinking water meeting Ontario Drinking Water Standards and requirements of O.Reg. 170/03.
Chlorine Residual:	the concentration of chlorine remaining in the chlorinated water at the end of a given contact time that is available to continue to disinfect. Measured as Free Chlorine, Combined Chlorine and Total Chlorine.
Coagulation:	the addition of coagulant chemicals to water to allow for the agglomeration of the small suspended particles into larger particles that can be removed by sedimentation and filtration in the drinking water treatment process.
Conservation Authority:	local, watershed management agencies that deliver services and programs that protect and manage water and other natural resources in partnership with government, landowners and other organizations (http://conservation-ontario.on.ca/).
Contaminant:	any solid, liquid, gas, odour, heat, sound, vibration, radiation or combination of any of them resulting directly or indirectly from human activities that causes or may cause an adverse effect.
Corrective Action:	steps that must be taken following an adverse water quality incident as specified by O. Reg. 170/03, Schedules 17 & 18, directed by the local medical officer of health or drinking water inspector, that are necessary to protect human health.

C	
Cross Connection:	the physical connection of a safe or potable water supply with another water supply of unknown or contaminated quality or such that the potable water could be contaminated or polluted.
D	
Director's Directions:	directions issued under Section 15.(1) of the Safe Drinking Water Act, 2002 to owners of municipal residential drinking water systems governing the preparation and content of operational plans for these systems. Directions will include minimum content requirements for operational plans, rules respecting the retention of copies of versions of operational plans, rules respecting public disclosure of operational plans and other such requirements as the Director considers necessary.
Disinfection:	the destruction or inactivation of pathogenic and other kinds of microorganisms by physical or chemical means.
Dissolved Air Flotation:	dissolving air into water under high pressure and releasing it at the bottom of an open water treatment chamber. The lower pressure in the open water treatment chamber creates bubbles that collect suspended particles as they rise to the surface. This causes the solids to collect at the surface, making it easy to skim them for disposal.
Dual Media Filter:	a water treatment filter containing two types of granular filtering media with different sizes and specific gravities in separate layers that can be operated at filtration rates higher than the conventional rapid sand filters. Finely granulated anthracite coal and sand are the most commonly used media in dual media filters.
E	
***E.coli* (*Escherichia coli*):**	a species of bacteria naturally present in the intestines of humans and animals. If animal or human waste containing *E. coli* contaminates drinking water it may cause gastrointestinal disease in humans. Most types of *E. coli* are harmless, but some active strains, especially O157:H7, produce harmful toxins and can cause severe illness.
Exceedance:	violation of a limit for a contaminant as prescribed in the Ontario Drinking Water Standards Regulation (O.Reg. 169/03).
F	
Filtration:	the separation of suspended solid particles from a fluid stream by passage of the fluid through a granular or membrane filter medium that retains most of the solids on or within itself.
Flocculation:	the gathering together of fine particles in water by gentle mixing after the addition of coagulant chemicals to form larger particles that can then be removed by sedimentation and filtration.

G	
Granular Activated Carbon Filter:	a form of carbon with a large surface area, making it a good filter for absorbing dissolved organic substances, removing taste, odour and colour causing substances, pesticides and disinfection by-products.
H	
Heterotrophic Plate Count (HPC):	HPC is a microbiological test that gives an indication of general bacteria population. HPC results are not an indicator of water safety and, as such, should not be used as an indicator of potential adverse human health effects.
M	
Multi-media Filter:	a water treatment filter, also referred to as a depth filter, containing three or more types of granular filtering media with different sizes and specific gravities in separate layers that can be operated at filtration rates higher than the conventional rapid sand filters or dual media filters. Finely granulated anthracite coal, silica sand and garnet sand are the most commonly used media in multi-media filters.
O	
Overgrown:	refers to microbiology result that may contain *E. coli* and other bacterial colonies that are too numerous to count.
P	
Pathogen:	an organism that causes disease in another organism.
Permit to Take Water (PTTW):	any person that takes more than 50,000 litres of water per day from any source requires a permit from the Ministry of the Environment under the Ontario Water Resources Act, 1990.
Plate Settler:	a structure, also referred to as inclined plate separator, consisting of multiple parallel plates orientated at an angle to the horizontal that may be installed at the end of the settling basin(s) in a conventional water treatment plant to improve settling of particles at higher flow rates and eliminate the need for the construction of additional settling basins.
Provincial Officer Order:	an order issued by a Ministry of the Environment Provincial Officer to any person that contravenes any act governed by the Ministry of the Environment.
R	
Raw Water:	surface or groundwater that is available as a source of drinking water but has not received any treatment.

S	
Source Water Protection:	action taken to prevent the pollution of drinking water sources, including groundwater, lakes, rivers, and streams. Source water protection involves developing and implementing a plan to manage land uses and potential contaminants.
T	
Total Coliform Bacteria:	a group of waterborne bacteria consisting of 3 main groups with common characteristics that is used as an indicator of water quality. The presence of total coliform bacteria in water leaving a treatment plant or in any treated water immediately after treatment could indicate inadequate treatment and possible water contamination.
Total Coliform Membrane Filter:	a membrane filter provides the means to count bacteria in water. A measured volume of water is filtered through a sterilized membrane which is then transferred to the surface of an appropriate nutrient medium that favours the growth of coliform bacteria and incubated. Upon incubation, visible colonies on the membrane surface can be used to determine total coliform levels in the water.
Turbidity:	a visible haze or cloudiness in water caused by the presence of suspended matter, resulting in the scattering and absorption of light. The cloudier the water, the greater the turbidity.
U	
Ultrafiltration:	a pressure-driven membrane filtration process that removes submicron particles (including viruses) and some large molecule dissolved organics.
W	
Water Quality:	a term used to describe the chemical, physical, and biological characteristics of water, usually in respect to its suitability for a particular purpose, such as drinking.
Waterborne Illness:	a disease transmitted through the ingestion of contaminated water. Water acts as a passive carrier of the infectious agent, chemical or waterborne pathogen.
Watershed:	a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water.

Appendices



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Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Drinking Water System Owner's Name	Drinking Water System Name	Risk-Based Inspection Rating (%)	Water Quality (Percentage (%) of Tests Meeting Standards)
Adjala-Tosorontio, The Corporation of The Township of	Colgan Well Supply	>95% to 100%*	100.00
Adjala-Tosorontio, The Corporation of The Township of	Everett Well Supply	>95% to 100%*	99.41
Adjala-Tosorontio, The Corporation of The Township of	Hockley Well Supply	>95% to 100%*	100.00
Adjala-Tosorontio, The Corporation of The Township of	Lisle Well Supply	>95% to 100%*	100.00
Adjala-Tosorontio, The Corporation of The Township of	Loretto Heights Well Supply	>95% to 100%*	100.00
Adjala-Tosorontio, The Corporation of The Township of	Rosemont Well Supply	>95% to 100%*	100.00
Adjala-Tosorontio, The Corporation of The Township of	Weca Well Supply	>95% to 100%*	100.00
Ajax, Town of	Ajax Water Treatment Plant	>95% to 100%*	99.95
Alfred and Plantagenet, The Corporation of The Township of	Lefaivre Water Treatment Plant	>95% to 100%*	99.77
Alfred and Plantagenet, The Corporation of The Township of	Plantagenet Water Treatment Plant	>95% to 100%	98.63
Alfred and Plantagenet, The Corporation of The Township of	Wendover Water Treatment Plant	>95% to 100%*	98.65
Alnwick/Haldimand, The Corporation of The Township of	Grafton Well Supply	>95% to 100%	99.80
Amaranth, The Corporation of The Township of	Waldemar Well Supply	>95% to 100%*	99.74
Amherstburg, The Corporation of The Town of	Amherstburg Water Treatment Plant	>95% to 100%*	100.00
Armstrong, The Corporation of The Township of	Earlton Well Supply	>95% to 100%*	100.00
Arnprior, The Corporation of The Town of	Arnprior Water Treatment Plant	>95% to 100%	100.00
Arran-Elderslie, The Corporation of The Municipality of	Arran-Elderslie Well Supply	>90% to 95%	99.04
Arran-Elderslie, The Corporation of The Municipality of	Tara Well Supply	>90% to 95%	99.01
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Benmiller Inn Well Supply	>95% to 100%*	100.00
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Century Heights Subdivision Well Supply	>95% to 100%	100.00
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Courtney Subdivision Distribution System	>95% to 100%*	99.64
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Dungannon Well Supply	>95% to 100%	100.00
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Huron Sands Well Supply	>95% to 100%*	100.00
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	Maitlandview Estates Well Supply	>95% to 100%	100.00
Ashfield-Colborne-Wawanosh, The Corporation of The Township of	South Lucknow Distribution System	>95% to 100%*	100.00
Asphodel Norwood, The Corporation of The Municipality of	Norwood Well Supply	>95% to 100%	100.00
Asphodel Norwood, The Corporation of The Municipality of	Trentview Estates Development Distribution System	>95% to 100%*	97.01
Assiginack, The Corporation of The Township of	Assiginack Water Treatment Plant	>95% to 100%	100.00
Assiginack, The Corporation of The Township of	Sunsite Estates Subdivision Water Treatment Plant	>95% to 100%	99.51
Atikokan, The Corporation of The Township of	Atikokan Water Treatment Plant	>75% to 80%	99.90
Aurora, The Corporation of The Town of	Aurora Well Supply	>95% to 100%	99.86
Aurora, The Corporation of The Town of	Aurora Distribution System	>95% to 100%*	99.88
Aylmer, The Corporation of The Town of	Aylmer (Elgin Area Water Supply) Distribution System	>95% to 100%*	99.63
Aylmer, The Corporation of The Town of	Aylmer Secondary Distribution System	>95% to 100%*	100.00

* Drinking Water System that achieved a 100% inspection rating | ** Water quality data not available for this system as it was not in operation during the reporting year. Data for these systems will be collected fully in the reporting year.

For more information on the inspection rating report for their local drinking water systems, consumers can contact their municipalities. More information is also available on the

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Residential Drinking Water System Owner's Name	Drinking Water System Name	Inspection Rating (Percentage Score)	Water Quality (Percentage of Tests Meeting Standards)
Bancroft, The Corporation of The Town of	Bancroft Water Treatment Plant	>90% to 95%	100.00
Barrie, The Corporation of The City of	Barrie Well Supply	>90% to 95%	99.94
Bayham, The Corporation of The Municipality of	Bayham (Elgin Area Water Supply) Distribution System	>95% to 100%*	99.41
Belleville, The Corporation of The City of	Belleville Water Treatment Plant	>95% to 100%*	99.86
Belleville, The Corporation of The City of	Point Anne Hamlet Water Treatment Plant	>95% to 100%*	99.27
Billings, The Corporation of The Township of	Kagawong Water Treatment Plant	>90% to 95%	99.77
Black River-Matheson, The Corporation of The Township of	Holtyre Well Supply	>95% to 100%	100.00
Black River-Matheson, The Corporation of The Township of	Matheson Well Supply	>95% to 100%	99.74
Black River-Matheson, The Corporation of The Township of	Ramore (Playfair) Well Supply	>90% to 95%	100.00
Black River-Matheson, The Corporation of The Township of	Val Gagne Well Supply	>95% to 100%	100.00
Blandford - Blenheim, Township of	Bright Well Supply	>95% to 100%	100.00
Blandford - Blenheim, Township of	Drumbo Well Supply	>95% to 100%	100.00
Blandford - Blenheim, Township of	Plattsville Well Supply	>95% to 100%	100.00
Blandford - Blenheim, Township of	Princeton Countryside Manor Cistern System	>95% to 100%*	100.00
Blind River, The Corporation of The Town of	Blind River Well Supply	>95% to 100%	98.99
Bluewater, The Corporation of The Municipality of	Bluewater Distribution System	>90% to 95%	99.89
Bluewater, The Corporation of The Municipality of	Carriage Lane Well Supply	>90% to 95%	100.00
Bluewater, The Corporation of The Municipality of	Harbour Lights Development Well Supply	>85% to 90%	99.08
Bluewater, The Corporation of The Municipality of	Hensall Well Supply	>85% to 90%	100.00
Bluewater, The Corporation of The Municipality of	Zurich Well Supply	>90% to 95%	99.36
Bonnechere Valley, The Corporation of The Municipality of	Eganville Water Treatment Plant	>95% to 100%*	99.62
Bracebridge, Town of	Bracebridge (Kirby Beach) Water Treatment Plant	>95% to 100%	99.35
Bradford West Gwillimbury, The Corporation of The Town of	Bradford/Bondhead Well Supply	>95% to 100%	99.78
Brant, The Corporation of The County of	Airport Well Supply	>95% to 100%	100.00
Brant, The Corporation of The County of	Cainsville Distribution System	>95% to 100%*	100.00
Brant, The Corporation of The County of	Mount Pleasant Well Supply	>95% to 100%*	100.00
Brant, The Corporation of The County of	Paris Well Supply	>95% to 100%*	100.00
Brant, The Corporation of The County of	St. George Well Supply	>95% to 100%*	100.00
Brantford, The Corporation of The City of	Brantford (Holmedale) Water Treatment Plant	>95% to 100%	99.92
Brighton, The Corporation of The Municipality of	Brighton Well Supply	>90% to 95%	99.89
Brock, Township of	Beaverton Water Treatment Plant	>95% to 100%*	100.00
Brock, Township of	Cannington Well Supply	>95% to 100%*	99.91
Brock, Township of	Sunderland Well Supply	>95% to 100%*	99.64
Brockton, The Corporation of The Municipality of	Lake Rosalind Well Supply	>85% to 90%	100.00
Brockton, The Corporation of The Municipality of	Powers Subdivision Well Supply	>95% to 100%	99.14
Brockton, The Corporation of The Municipality of	Walkerton Well Supply	>80% to 85%	99.58
Brockville, The Corporation of The City of	Brockville Water Treatment Plant	>95% to 100%*	99.92
Brooke-Alvinston, The Corporation of The Township of	Alvinston Distribution System	>95% to 100%	100.00
Bruce Mines, The Corporation of The Town of	Bruce Mines Water Treatment Plant	>95% to 100%	99.80
Burk's Falls, The Corporation of The Village of	Burk's Falls Well Supply	>95% to 100%	99.80

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Licensee (Municipality Owning the Drinking Water System is Licensed)	Drinking Water System Name	Year of Inspection Rating (%, Rating)	Year of Water Quality (% of Tests Meeting Standards)
Burlington, City of	Bridgeview Community Distribution System	>95% to 100%*	100.00
Burlington, City of	Burlington Water Treatment Plant	>95% to 100%*	99.92
Caledon, Town of	Alton Well Supply	>95% to 100%*	100.00
Caledon, Town of	Caledon East Well Supply	>95% to 100%*	100.00
Caledon, Town of	Caledon Village Well Supply	>95% to 100%*	99.91
Caledon, Town of	Cheltenham-Terra Cotta Well Supply	>95% to 100%	100.00
Caledon, Town of	Inglewood Well Supply	>95% to 100%*	100.00
Caledon, Town of	Palgrave Well Supply	>95% to 100%*	100.00
Callander, The Corporation of The Municipality of	Callander Water Treatment Plant	>95% to 100%*	100.00
Cambridge, The Corporation of The City of	Cambridge Well Supply	>90% to 95%	100.00
Cambridge, The Corporation of The City of	Cambridge Distribution System	>90% to 95%	100.00
Carleton Place, The Corporation of The Town of	Carleton Place Water Treatment Plant	>95% to 100%	99.89
Casselman, The Corporation of The Village of	Casselman Water Treatment Plant	>95% to 100%*	100.00
Cavan-Millbrook-North Monaghan, The Corporation of The Township of	Millbrook Well Supply	>95% to 100%*	99.75
Central Elgin, The Corporation of The Municipality of	Belmont Well Supply	>95% to 100%*	99.70
Central Elgin, The Corporation of The Municipality of	Central Elgin (Elgin Area Water Supply) Distribution System	>95% to 100%*	100.00
Central Elgin, The Corporation of The Municipality of	Elgin Primary Area Water Supply	>95% to 100%*	100.00
Central Huron, The Corporation of The Municipality of	Auburn Well Supply	>95% to 100%*	100.00
Central Huron, The Corporation of The Municipality of	Clinton Well Supply	>95% to 100%*	100.00
Central Huron, The Corporation of The Municipality of	Kelly Well Supply	>95% to 100%*	99.35
Central Huron, The Corporation of The Municipality of	McClinchey Well Supply	>95% to 100%*	100.00
Central Huron, The Corporation of The Municipality of	S.A.M. Well Supply	>95% to 100%*	100.00
Central Huron, The Corporation of The Municipality of	Vandewetering Subdivision Well Supply	>95% to 100%*	100.00
Central Manitoulin, The Corporation of The Township of	Mindemoya Water Treatment Plant	>90% to 95%	100.00
Centre Wellington, The Corporation of The Township of	Elora Well Supply	>95% to 100%*	99.65
Centre Wellington, The Corporation of The Township of	Fergus Well Supply	>95% to 100%	100.00
Champlain, The Corporation of The Township of	L'Orignal Distribution System	>95% to 100%*	100.00
Champlain, The Corporation of The Township of	Vankleek Hill Distribution System	>95% to 100%*	100.00
Chapleau, The Corporation of The Township of	Chapleau Water Treatment Plant	>80% to 85%	99.80
Chapple, The Corporation of The Township of	Barwick Well Supply	>95% to 100%	100.00
Charlton and Dack, The Corporation of The Municipality of	Bradley Subdivision Distribution System	>95% to 100%	100.00
Charlton and Dack, The Corporation of The Municipality of	Charlton Water Treatment Plant	>95% to 100%	99.77
Chatham-Kent, The Corporation of The Municipality of	Bothwell (West Elgin Area Water Supply) Distribution System	>95% to 100%*	100.00
Chatham-Kent, The Corporation of The Municipality of	Chatham Water Treatment Plant	>95% to 100%	99.95
Chatham-Kent, The Corporation of The Municipality of	Highgate Pure Water Well Supply	>90% to 95%	99.24
Chatham-Kent, The Corporation of The Municipality of	North Wallaceburg Distribution System	>95% to 100%*	100.00
Chatham-Kent, The Corporation of The Municipality of	Ridgetown Well Supply	>95% to 100%	99.71
Chatham-Kent, The Corporation of The Municipality of	South Chatham-Kent Water Treatment Plant	>90% to 95%	99.85

*Drinking Water Systems that achieved a 100% inspection rating, but water quality data is not available as the system was inspected prior to being registered (required for data reporting) and these systems were officially operational early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (DWS #/Rating)	2006-07 Water Quality (% of Tests Meeting Standards)
Chatham-Kent, The Corporation of The Municipality of	Wallaceburg Water Treatment Plant	>95% to 100%*	99.92
Chatham-Kent, The Corporation of The Municipality of	Wheatley Water Treatment Plant	>95% to 100%*	99.95
Chatsworth, The Corporation of The Township of	Chatsworth Well Supply	>90% to 95%	100.00
Chatsworth, The Corporation of The Township of	Walter's Falls Well Supply	>95% to 100%*	100.00
Clarence-Rockland, The Corporation of The City of	Rockland Water Treatment Plant	>95% to 100%*	99.90
Clarington, Municipality of	Bowmanville Water Treatment Plant	>95% to 100%	99.94
Clarington, Municipality of	Newcastle Water Treatment Plant	>95% to 100%*	100.00
Clarington, Municipality of	Orono Well Supply	>95% to 100%*	100.00
Clearview, The Corporation of The Township of	Buckingham Woods Well Supply	>95% to 100%*	100.00
Clearview, The Corporation of The Township of	Colling-Woodlands Well Supply	>95% to 100%	99.45
Clearview, The Corporation of The Township of	Creemore Well Supply	>90% to 95%	100.00
Clearview, The Corporation of The Township of	McKean Subdivision Well Supply	>95% to 100%*	100.00
Clearview, The Corporation of The Township of	New Lowell Well Supply	>85% to 90%	99.79
Clearview, The Corporation of The Township of	Stayner Well Supply	>70% to 75%	99.86
Cobalt, The Corporation of The Town of	Cobalt Water Treatment Plant	>95% to 100%	99.77
Cobourg, The Corporation of The Town of	Cobourg Water Treatment Plant	>95% to 100%*	99.68
Cochrane, The Corporation of The Town of	Cochrane Well Supply	>90% to 95%	100.00
Coleman, Township of	Coleman Distribution System	>90% to 95%	99.77
Collingwood, The Corporation of The Town of	Collingwood (Raymond A. Barker Ultrafiltration Plant) Water Treatment Plant	>90% to 95%	99.91
Cornwall, The Corporation of The City of	Cornwall Water Treatment Plant	>95% to 100%*	100.00
Cramahe, The Corporation of The Township of	Colborne Well Supply	>95% to 100%*	100.00
Dawn-Euphemia, The Corporation of The Township of	Dawn-Euphemia Water Distribution System	>95% to 100%	100.00
Deep River, The Corporation of	Deep River Water Treatment Plant	>90% to 95%	99.24
Deseronto, Town of	Deseronto Water Treatment Plant	>95% to 100%*	99.56
Dryden, The Corporation of The City of	Dryden Water Treatment Plant	>95% to 100%*	100.00
Dubreuilville, The Corporation of The Township of	Dubreuilville Well Supply	>70% to 75%	100.00
Dutton-Dunwich, The Corporation of The Municipality of	Dutton-Dunwich (West Elgin Area Water Supply) Distribution System	>95% to 100%	100.00
Ear Falls, The Corporation of The Township of	Ear Falls Water Treatment Plant	>95% to 100%	100.00
East Garafraxa, The Corporation of The Township of	Marsville Subdivision Well Supply	>95% to 100%	100.00
East Gwillimbury, The Corporation of The Town of	Holland - Queensville - Sharon Distribution System	>95% to 100%*	100.00
East Gwillimbury, The Corporation of The Town of	Holland Landing Well Supply	>95% to 100%	100.00
East Gwillimbury, The Corporation of The Town of	Holland Landing Distribution System (Amalgamated into The Holland - Queensville - Sharon Distribution System)	>95% to 100%*	100.00
East Gwillimbury, The Corporation of The Town of	Mount Albert Well Supply	>95% to 100%*	100.00
East Gwillimbury, The Corporation of The Town of	Mount Albert Distribution System	>95% to 100%*	100.00
East Gwillimbury, The Corporation of The Town of	Queensville (York Region) Well Supply	>95% to 100%	100.00
East Gwillimbury, The Corporation of The Town of	Queensville Distribution System (Amalgamated into The Holland - Queensville - Sharon Distribution System)	>95% to 100%*	100.00

* Drinking Water Systems that achieved a 100% inspection rating ** Water quality data is not available as one system was inspected prior to being registered (required for new systems) and these systems were officially commissioned early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Residential Drinking Water System Owner	Drinking Water System Name	2006-07 Inspection Rating (%)	2006-07 Water Quality Tests Meeting Standards (%)
East Luther Grand Valley, The Corporation of The Township of	East Luther Grand Valley Well Supply	>95% to 100%	100.00
East Zorra - Tavistock, Township of	Hickson-King Subdivision Well Supply	>95% to 100%*	100.00
East Zorra - Tavistock, Township of	Innerkip Well Supply	>95% to 100%*	100.00
East Zorra - Tavistock, Township of	Tavistock Well Supply	>95% to 100%*	100.00
Edwardsburgh-Cardinal, The Corporation of The Township of	Bennett Street Well Supply	>75% to 80%	99.44
Edwardsburgh-Cardinal, The Corporation of The Township of	Cardinal Water Treatment Plant	>95% to 100%	99.78
Edwardsburgh-Cardinal, The Corporation of The Township of	Edwardsburgh Industrial Park Distribution System	>95% to 100%	100.00
Elizabethtown - Kitley, The Corporation of The Township of	Elizabethtown - Kitley Distribution System	>90% to 95%	100.00
Elliot Lake, The Corporation of The City of	Elliot Lake Water Treatment Plant	>90% to 95%	99.76
Emo, The Corporation of The Township of	Emo Water Treatment Plant	>95% to 100%	100.00
Englehart, The Corporation of The Town of	Englehart Well Supply	>95% to 100%*	100.00
Enniskillen, The Corporation of The Township of	Enniskillen Township Distribution System	>95% to 100%	100.00
Erin, The Corporation of The Town of	Erin Well Supply	>95% to 100%*	100.00
Erin, The Corporation of The Town of	Hillsburgh Well Supply	>95% to 100%*	100.00
Espanola, The Corporation of The Town of	Espanola Water Treatment Plant	>95% to 100%	100.00
Essa, The Corporation of The Township of	Angus Well Supply	>95% to 100%	99.69
Essa, The Corporation of The Township of	Baxter Well Supply	>95% to 100%	100.00
Essa, The Corporation of The Township of	Glen Ave (Thornton) Well Supply	>90% to 95%	100.00
Essex, The Corporation of The Town of	Essex (Union Water Treatment Plant) Distribution System	>95% to 100%*	100.00
Essex, The Corporation of The Town of	Harrow-Colchester South Water Treatment Plant	>95% to 100%*	99.58
Fauquier-Strickland,The Corporation of The Township of	Fauquier Water Treatment Plant	>95% to 100%	99.76
Fort Erie, The Corporation of The Town of	Fort Erie (Rosehill) Water Treatment Plant	>95% to 100%	100.00
Fort Erie, The Corporation of The Town of	Fort Erie Distribution System	>95% to 100%	100.00
Fort Frances, The Corporation of The Town of	Fort Frances Water Treatment Plant	>95% to 100%*	100.00
Front of Yonge, Township of	Miller Manor Apartments Well Supply	>50% to 55%	100.00
Galway-Cavendish-Harvey, The Corporation of The Township of	Alpine/Pirates Glen Well Supply	>80% to 85%	100.00
Galway-Cavendish-Harvey, The Corporation of The Township of	Buckhorn Lake Estates Well Supply	>90% to 95%	100.00
Gananoque, The Corporation of The Separated Town of	James W. King Water Treatment Plant	>95% to 100%	100.00
Georgian Bay, Township of	MacTier (Beech Avenue) Water Treatment Plant	>95% to 100%*	100.00
Georgian Bay, Township of	Port Severn Water Treatment Plant	>95% to 100%*	100.00
Georgian Bluffs, The Corporation of The Township of	East Linton and Area Water Treatment Plant	>95% to 100%	99.55
Georgian Bluffs, The Corporation of The Township of	Oxenden Distribution System	>95% to 100%	100.00
Georgian Bluffs, The Corporation of The Township of	Pottawatomi Village Well Supply	>95% to 100%	100.00
Georgian Bluffs, The Corporation of The Township of	Presquile Water Treatment Plant	>95% to 100%	100.00
Georgian Bluffs, The Corporation of The Township of	Shallow Lake Well Supply	>65% to 70%	99.07
Georgina, The Corporation of The Town of	Georgina Water Treatment Plant	>95% to 100%*	100.00
Georgina, The Corporation of The Town of	Keswick Water Treatment Plant	>95% to 100%*	100.00
Georgina, The Corporation of The Town of	Keswick-Sutton Distribution System	>95% to 100%*	99.94

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being commissioned (not required to report data) and three systems were officially unregistered early in the reporting year

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (%)	2006-07 Overall Water Quality (% of Tests Meeting Standards)
Goderich, The Corporation of The Town of	Goderich Water Treatment Plant	>95% to 100%	100.00
Gore Bay, The Corporation of The Town of	Gore Bay Water Treatment Plant	>90% to 95%	100.00
Gravenhurst, Town of	Gravenhurst Water Treatment Plant	>95% to 100%	99.62
Greater Napanee, The Corporation of The Town of	A.L. Dafoe Water Treatment Plant	>95% to 100%*	99.86
Greater Napanee, The Corporation of The Town of	Sandhurst Shores Water Treatment Plant	>95% to 100%*	100.00
Greater Sudbury, City of	Blezard Valley Well Supply	>95% to 100%	99.92
Greater Sudbury, City of	Capreol Well Supply	>95% to 100%	99.78
Greater Sudbury, City of	Dowling Well Supply	>90% to 95%	100.00
Greater Sudbury, City of	Falconbridge (Sudbury) Distribution System	>95% to 100%*	100.00
Greater Sudbury, City of	Garson Well Supply	>90% to 95%	100.00
Greater Sudbury, City of	Levack Well Supply	>95% to 100%	100.00
Greater Sudbury, City of	Levack (Sudbury) Distribution System	>95% to 100%	100.00
Greater Sudbury, City of	Onaping Well Supply	>90% to 95%	100.00
Greater Sudbury, City of	Onaping (Sudbury) Distribution System	>95% to 100%*	100.00
Greater Sudbury, City of	Sudbury (David St.) Water Treatment Plant	>95% to 100%	100.00
Greater Sudbury, City of	Sudbury (Wahnapitei) Water Treatment Plant	>95% to 100%*	99.95
Greater Sudbury, City of	Vermillion (Inco) Water Treatment Plant	>85% to 90%	100.00
Greater Sudbury, City of	Vermillion Distribution System	>95% to 100%	99.64
Greenstone, The Corporation of The Municipality of	Beardmore Water Treatment Plant	>95% to 100%	100.00
Greenstone, The Corporation of The Municipality of	Caramat Water Treatment Plant	>90% to 95%	97.48
Greenstone, The Corporation of The Municipality of	Geraldton Water Treatment Plant	>95% to 100%*	100.00
Greenstone, The Corporation of The Municipality of	Longlac Water Treatment Plant	>95% to 100%	100.00
Greenstone, The Corporation of The Municipality of	Nakina Well Supply	>85% to 90%	100.00
Grey Highlands, Municipality of	Kimberley-Amik-Talisman Well Supply	>95% to 100%	99.78
Grey Highlands, Municipality of	Markdale Well Supply	>95% to 100%	99.85
Grimsby, The Corporation of The Town of	Grimsby Water Treatment Plant	>95% to 100%*	100.00
Grimsby, The Corporation of The Town of	Grimsby Distribution System	>95% to 100%*	99.57
Guelph, The Corporation of The City of	Guelph Well Supply	>95% to 100%	99.91
Guelph/Eramosa, The Corporation of The Township of	Gazer Mooney Subdivision Distribution System	>95% to 100%*	100.00
Guelph/Eramosa, The Corporation of The Township of	Hamilton Drive Well Supply	>95% to 100%*	99.71
Guelph/Eramosa, The Corporation of The Township of	Rockwood Well Supply	>90% to 95%	99.63
Haldimand, The Corporation of The County of	Caledonia/Cayuga (Hamilton Water Treatment Plant) Distribution System	>90% to 95%	99.38
Haldimand, The Corporation of The County of	Dunnville Water Treatment Plant	>80% to 85%	99.77
Haldimand, The Corporation of The County of	Nanticoke and Trunk Main Water Treatment Plant	>80% to 85%	99.87
Halton Hills, Town of	Acton Well Supply	>95% to 100%*	99.82
Halton Hills, Town of	Georgetown Well Supply	>95% to 100%*	100.00
Hamilton, City of	Carlisle Well Supply	>90% to 95%	100.00
Hamilton, City of	Fifty Road Distribution System	>95% to 100%	100.00
Hamilton, City of	Freelton Well Supply	>95% to 100%*	99.89
Hamilton, City of	Greensville Well Supply	>95% to 100%	100.00

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Hamilton, City of	Hamilton Water Treatment Plant	>95% to 100%	99.94
Hamilton, City of	Lynden Well Supply	>95% to 100%	100.00
Hamilton, The Corporation of The Township of	Camborne Well Supply	>95% to 100%	99.63
Hamilton, The Corporation of The Township of	Creighton Heights Well Supply	>90% to 95%	100.00
Hamilton, The Corporation of The Township of	Hamilton Township Water Agreement Distribution System	>95% to 100%*	99.68
Hanover, The Corporation of The Town of	Hanover Water Treatment Plant	>95% to 100%*	100.00
Havelock-Belmont-Methuen, The Corporation of The Township of	Havelock Well Supply	>95% to 100%	100.00
Hawkesbury, The Corporation of The Town of	Hawkesbury Water Treatment Plant	>95% to 100%*	99.81
Hearst, The Corporation of The Town of	Hearst Water Treatment Plant	>95% to 100%*	99.62
Highlands East, The Corporation of The Municipality of	Cardiff Well Supply	>90% to 95%	99.29
Highlands East, The Corporation of The Municipality of	Dyno Estates Well Supply	>95% to 100%*	100.00
Hilton Beach, The Incorporated Village of	Hilton Beach Well Supply	>95% to 100%	100.00
Hornepayne, The Corporation of The Township of	Hornepayne Well Supply	>95% to 100%*	99.53
Huntsville, Town of	Fairyview Water Treatment Plant (Formerly Huntsville Water Treatment Plant)	>95% to 100%*	99.43
Huntsville, Town of	Port Sydney Well Supply	>95% to 100%	99.69
Huron East, The Corporation of The Municipality of	Brucefield Well Supply	>90% to 95%	100.00
Huron East, The Corporation of The Municipality of	Brussels Well Supply	>85% to 90%	99.86
Huron East, The Corporation of The Municipality of	Seaforth Well Supply	>95% to 100%*	100.00
Huron East, The Corporation of The Municipality of	Vanastra Distribution System	>95% to 100%*	100.00
Huron-Kinloss, The Corporation of The Township of	Huronville Subdivision Distribution System	>90% to 95%	99.59
Huron-Kinloss, The Corporation of The Township of	Lakeshore Well Supply	>95% to 100%	99.64
Huron-Kinloss, The Corporation of The Township of	Lucknow Well Supply	>95% to 100%	100.00
Huron-Kinloss, The Corporation of The Township of	Ripley Well Supply	>85% to 90%	100.00
Huron-Kinloss, The Corporation of The Township of	Whitechurch Well Supply	>80% to 85%	100.00
Ignace, The Corporation of The Township of	Ignace Well Supply	>80% to 85%	99.87
Ingersoll, Town of	Ingersoll Well Supply	>95% to 100%	99.44
Innisfil, The Corporation of The Town of	Alcona Water Treatment Plant	>95% to 100%*	100.00
Innisfil, The Corporation of The Town of	Churchill Well Supply	>90% to 95%	99.43
Innisfil, The Corporation of The Town of	Cookstown Well Supply	>90% to 95%	100.00
Innisfil, The Corporation of The Town of	Crossroads Well Supply	>90% to 95%	100.00
Innisfil, The Corporation of The Town of	Goldcrest Well Supply	>90% to 95%	100.00
Innisfil, The Corporation of The Town of	Golf Haven Well Supply	>95% to 100%	98.88
Innisfil, The Corporation of The Town of	Innisfil Heights Well Supply	>90% to 95%	100.00
Innisfil, The Corporation of The Town of	Stroud Well Supply	>90% to 95%	99.55
Iroquois Falls, The Corporation of The Town of	Iroquois Falls Well Supply	>90% to 95%	99.79
Iroquois Falls, The Corporation of The Town of	Monteith Correctional Centre Well Supply	>95% to 100%*	95.00
Iroquois Falls, The Corporation of The Town of	Monteith Distribution System	>95% to 100%*	100.00
Iroquois Falls, The Corporation of The Town of	Porquis Junction Well Supply	>90% to 95%	100.00

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
James, The Corporation of The Township of	Elk Lake Well Supply	>95% to 100%*	100.00
Johnson, The Corporation of The Township of	Desbarats Water Treatment Plant	>95% to 100%	100.00
Kapuskasing, The Corporation of The Town of	Kapuskasing Well Supply	>95% to 100%	99.87
Kawartha Lakes, The Corporation of The City of	Birchpoint Estates Well Supply	>95% to 100%*	99.49
Kawartha Lakes, The Corporation of The City of	Bobcaygeon Water Treatment Plant	>90% to 95%	100.00
Kawartha Lakes, The Corporation of The City of	Canadiana Shores Well Supply	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Fenelon Falls Water Treatment Plant	>95% to 100%	99.84
Kawartha Lakes, The Corporation of The City of	Janetville Well Supply	>95% to 100%*	100.00
Kawartha Lakes, The Corporation of The City of	King's Bay Well Supply	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Kinmount Downtown Water Treatment Plant	>95% to 100%	96.97
Kawartha Lakes, The Corporation of The City of	Kinmount East Hill Well Supply	>95% to 100%*	98.31
Kawartha Lakes, The Corporation of The City of	Kinmount Water Treatment Plant	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Lindsay Water Treatment Plant	>95% to 100%	99.48
Kawartha Lakes, The Corporation of The City of	Manilla Well Supply	>95% to 100%	99.09
Kawartha Lakes, The Corporation of The City of	Manorview Well Supply	>90% to 95%	100.00
Kawartha Lakes, The Corporation of The City of	Mariposa Estates Well Supply	>95% to 100%	97.93
Kawartha Lakes, The Corporation of The City of	Norland Water Treatment Plant	>90% to 95%	99.27
Kawartha Lakes, The Corporation of The City of	Omemee Well Supply	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Pinewood Well Supply	>85% to 90%	98.88
Kawartha Lakes, The Corporation of The City of	Pleasant Point Well Supply	>90% to 95%	100.00
Kawartha Lakes, The Corporation of The City of	Sonya Village Subdivision Well Supply	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Southview Estates Water Treatment Plant	>95% to 100%	99.49
Kawartha Lakes, The Corporation of The City of	Sturgeon Point Water Treatment Plant	>95% to 100%*	N/A**
Kawartha Lakes, The Corporation of The City of	Victoria Place Well Supply	>90% to 95%	99.22
Kawartha Lakes, The Corporation of The City of	Western Trent/Palmina Well Supply	>95% to 100%	99.70
Kawartha Lakes, The Corporation of The City of	Woodfield Well Supply	>95% to 100%	100.00
Kawartha Lakes, The Corporation of The City of	Woodville Well Supply	>90% to 95%	100.00
Kenora, The Corporation of The City of	Kenora Area Water Treatment Plant	>95% to 100%	100.00
Killaloe, Hagarty & Richards, The Corporation of The Township of	Killaloe Well Supply	>95% to 100%	100.00
Killarney, The Corporation of The Municipality of	Killarney Water Treatment Plant	>95% to 100%	100.00
Kincardine, The Corporation of The Municipality of	Kincardine Water Treatment Plant	>90% to 95%	99.59
Kincardine, The Corporation of The Municipality of	Scott's Point Well Supply	>95% to 100%*	96.58
Kincardine, The Corporation of The Municipality of	Tiverton Well Supply	>95% to 100%	98.39
Kincardine, The Corporation of The Municipality of	Underwood Well Supply	>90% to 95%	96.90
King, The Corporation of The Township of	Ansnorveldt Well Supply	>95% to 100%*	100.00
King, The Corporation of The Township of	Ansnorveldt Distribution System	>95% to 100%*	100.00
King, The Corporation of The Township of	King City Well Supply	>95% to 100%*	100.00
King, The Corporation of The Township of	King City Distribution System	>95% to 100%*	100.00
King, The Corporation of The Township of	Nobleton Well Supply	>95% to 100%*	100.00
King, The Corporation of The Township of	Nobleton Distribution System	>95% to 100%*	100.00

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	Risk-Ranked Inspection Rating (2006-2007)	Water Quality (% of Tests Meeting Standards)
King, The Corporation of The Township of	Schomberg Well Supply	>95% to 100%	100.00
King, The Corporation of The Township of	Schomberg Distribution System	>95% to 100%*	99.40
Kingston, City of	Cana Well Supply	>85% to 90%	100.00
Kingston, City of	Kingston Central Water Treatment Plant	>95% to 100%	99.93
Kingston, City of	Kingston West Water Treatment Plant	>95% to 100%	99.94
Kingsville, The Corporation of The Township of	Kingsville (Union Water Treatment Plant) Distribution System	>95% to 100%	99.89
Kingsville, The Corporation of The Township of	Union (Essex County) Area Water Treatment Plant	>95% to 100%*	98.31
Kirkland Lake, The Corporation of The Town of	L.J. Sherratt Water Treatment Plant	>95% to 100%*	100.00
Kitchener, The Corporation of The City of	Kitchener Distribution System	>85% to 90%	99.44
Kitchener, The Corporation of The City of	Mannheim Water Supply System	>90% to 95%	100.00
Lake of Bays, Township of	Baysville Birch Glen Water Treatment Plant	>95% to 100%	100.00
Lakeshore, The Corporation of The Town of	Belle River Water Treatment Plant	>95% to 100%	99.71
Lakeshore, The Corporation of The Town of	Lakeshore (Tecumseh Water Service Area) Distribution System	>95% to 100%	100.00
Lakeshore, The Corporation of The Town of	Lakeshore (Union Water Treatment Plant) Distribution System	>95% to 100%	100.00
Lakeshore, The Corporation of The Town of	Lighthouse Cove Distribution System	>95% to 100%*	100.00
Lakeshore, The Corporation of The Town of	Stoney Point Water Treatment Plant	>95% to 100%	99.85
Lambton Shores, The Corporation of The Municipality of	Arkona Well Supply	>90% to 95%	100.00
Lambton Shores, The Corporation of The Municipality of	East Lambton Shores Water Distribution System	>95% to 100%*	99.91
Lambton Shores, The Corporation of The Municipality of	Thedford Water Distribution System	>95% to 100%*	99.74
Lambton Shores, The Corporation of The Municipality of	West Lambton Shores Water Distribution System	>95% to 100%*	99.74
Larder Lake, The Corporation of The Township of	Larder Lake Well Supply	>95% to 100%	100.00
Lasalle, The Corporation of The Town of	Town of Lasalle (Windsor) Distribution System	>95% to 100%	100.00
Latchford, The Corporation of The Town of	Latchford Water Treatment Plant	>90% to 95%	100.00
Laurentian Hills, The Corporation of The Town of	Chalk River Water Treatment Plant	>95% to 100%	99.59
Laurentian Valley, Township of	Laurentian Valley Distribution System	>95% to 100%	99.07
Leamington, The Municipality of The Township of	Leamington (Union Water Treatment Plant) Distribution System	>95% to 100%*	99.81
Leeds and The Thousand Islands, The Corporation of The Township of	Lansdowne Well Supply	>95% to 100%*	100.00
Lincoln, The Corporation of The Town of	Lincoln (Beamsville) (Grimsby Water Treatment Plant) Distribution System	>95% to 100%*	99.12
Lincoln, The Corporation of The Town of	Lincoln (Vineland/Jordan) (Decew Water Treatment Plant) Distribution System	>95% to 100%*	99.80
London, City of	City of London Distribution System	>95% to 100%	99.51
London, City of	Glanworth Well Supply	>90% to 95%	N/A**
Loyalist, The Corporation of The Township of	Bath Water Treatment Plant	>95% to 100%*	100.00
Loyalist, The Corporation of The Township of	Fairfield Water Treatment Plant	>95% to 100%*	100.00
Lucan Biddulph, The Corporation of The Township of	Lucan Biddulph (Lake Huron Area Water Supply) Distribution System	>95% to 100%	100.00

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal (Address of Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (DWS Rating)	2006-07 Water Quality (% of Tests Meeting Standards)
MacDonald, Meredith & Aberdeen Additional, The Corporation of The Township of	Echo Bay Water Treatment Plant	>95% to 100%	99.74
Machin, The Corporation of Municipality of	Vermilion Bay Water Treatment Plant	>95% to 100%	100.00
Madawaska Valley, Township of	Barry`s Bay Water Treatment Plant	>95% to 100%*	100.00
Madoc, Township of	Madoc Well Supply	>90% to 95%	99.73
Malahide, The Corporation of The Township of	Malahide (Elgin Area Water Supply) Distribution System	>95% to 100%	99.80
Malahide, The Corporation of The Township of	Port Burwell Secondary Distribution System	>95% to 100%*	100.00
Manitouwadge, The Corporation of The Township of	Manitouwadge Well Supply	>95% to 100%	100.00
Mapleton, The Corporation of The Municipality of	Drayton Well Supply	>85% to 90%	100.00
Mapleton, The Corporation of The Municipality of	Moorefield Well Supply	>95% to 100%	98.93
Marathon, The Corporation of The Town of	Marathon Well Supply	>95% to 100%*	100.00
Markham, Town of	Markham Distribution System	>95% to 100%*	99.90
Markstay-Warren, Municipality of	Markstay Distribution System	>95% to 100%*	99.13
Markstay-Warren, Municipality of	Warren Well Supply	>90% to 95%	100.00
Marmora & Lake, The Corporation of The Municipality of	Deloro Well Supply	>75% to 80%	100.00
Marmora & Lake, The Corporation of The Municipality of	Marmora Water Treatment Plant	>90% to 95%	99.56
Matachewan, The Corporation of The Town of	Matachewan Well Supply	>95% to 100%*	100.00
Mattawa, The Corporation of The Town of	Mattawa Well Supply	>80% to 85%	100.00
Mattice-Val Côté, The Corporation of The Township of	Mattice Water Treatment Plant	>95% to 100%*	100.00
McDougall, The Corporation of The Municipality of	Nobel Water Treatment Plant	>95% to 100%*	99.65
McGarry, The Corporation of The Township of	Virginiatown-Kearns Well Supply	>95% to 100%*	100.00
Meaford, The Corporation of The Municipality of	Leith Distribution System	>90% to 95%	100.00
Meaford, The Corporation of The Municipality of	Meaford Public Utilities Commission Water Treatment Plant	>95% to 100%	100.00
Merrickville-Wolford, The Corporation of The Village of	Merrickville Well Supply	>95% to 100%	100.00
Michipicoten, The Corporation of The Township of	Michipicoten River Village Well Supply	>95% to 100%	99.48
Michipicoten, The Corporation of The Township of	Wawa Water Treatment Plant	>95% to 100%	99.84
Middlesex Centre, The Corporation of The Township of	Birr Well Supply	>95% to 100%*	100.00
Middlesex Centre, The Corporation of The Township of	Delaware Distribution System	>90% to 95%	100.00
Middlesex Centre, The Corporation of The Township of	Kilworth Heights Subdivision Well Supply	>90% to 95%	99.42
Middlesex Centre, The Corporation of The Township of	Melrose Well Supply	>90% to 95%	99.30
Middlesex Centre, The Corporation of The Township of	Middlesex Centre Distribution System	>95% to 100%	99.91
Midland, The Corporation of The Town of	Midland Well Supply	>95% to 100%*	100.00
Milton, Town of	Campbellville Well Supply	>95% to 100%*	100.00
Milton, Town of	Milton Well Supply	>95% to 100%*	99.91
Minden Hills, The Corporation of The Town of	Lutterworth Pines Trailer Park Well Supply	>80% to 85%	95.51
Minden Hills, The Corporation of The Town of	Minden Well Supply	>95% to 100%*	100.00
Minto, The Corporation of The Town of	Clifford Well Supply	>95% to 100%	100.00
Minto, The Corporation of The Town of	Harriston Well Supply	>90% to 95%	99.86
Minto, The Corporation of The Town of	Minto Pines Subdivision Well Supply	>90% to 95%	100.00

* Drinking Water Systems that achieved a 100% inspection rating ** Water quality data is not available as one system was inspected prior to being registered (required for new reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Minto, The Corporation of The Town of	Palmerston Well Supply	>95% to 100%	100.00
Mississauga, City of	South Peel (Lakeview) Water Treatment Plant	>95% to 100%*	99.92
Mississauga, City of	South Peel (Lorne Park) Water Treatment Plant	>95% to 100%	99.93
Mississippi Mills, The Corporation of The Town of	Mississippi Mills Well Supply	>95% to 100%	100.00
Mono, The Corporation of The Town of	Cardinal Woods Subdivision Well Supply	>95% to 100%*	100.00
Mono, The Corporation of The Town of	Island Lake Well Supply	>90% to 95%	100.00
Montague, The Corporation of The Township of	Montague Distribution System	>95% to 100%*	99.53
Moonbeam, The Corporation of The Township of	Moonbeam Well Supply	>95% to 100%	100.00
Moosonee, The Corporation of The Town of	Moosonee Water Treatment Plant	>90% to 95%	100.00
Morris-Turnberry, The Corporation of The Municipality of	Jane Street (Belgrave) Well Supply	>95% to 100%*	98.96
Morris-Turnberry, The Corporation of The Municipality of	McCrae Street (Belgrave) Well Supply	>95% to 100%*	100.00
Mulmur, The Corporation of The Township of	Mansfield Well Supply	>95% to 100%	99.69
Muskoka Lakes, Township of	Bala Water Treatment Plant	>95% to 100%*	99.82
Muskoka Lakes, Township of	Port Carling (Ferndale Road) Water Treatment Plant	>95% to 100%*	99.80
Nairn and Hyman, The Corporation of The Township of	Nairn Centre Water Treatment Plant	>95% to 100%	100.00
Nation Municipality, The Corporation of	Limoges Well Supply	>95% to 100%*	98.90
Nation Municipality, The Corporation of	St. Isidore Well Supply	>95% to 100%*	99.23
New Tecumseth, The Corporation of The Town of	Alliston Well Supply	>95% to 100%*	99.65
New Tecumseth, The Corporation of The Town of	Tottenham Well Supply	>95% to 100%*	98.98
Newbury, The Corporation of The Village of	Newbury (West Elgin Area Water Supply) Distribution System	>95% to 100%	100.00
Newmarket, The Corporation of The Town of	Newmarket Well Supply	>95% to 100%*	100.00
Newmarket, The Corporation of The Town of	Newmarket Distribution System	>95% to 100%*	99.96
Niagara Falls, City of	Niagara Falls Water Treatment Plant	>85% to 90%	100.00
Niagara Falls, City of	Niagara Falls Distribution System	>95% to 100%	99.65
Niagara-on-the-Lake, The Corporation of The Town of	Bevan Heights Distribution System	>95% to 100%*	100.00
Niagara-on-the-Lake, The Corporation of The Town of	Niagara-on-the-Lake Distribution System	>95% to 100%*	99.51
Nipigon, The Corporation of The Township of	Nipigon Water Treatment Plant	>95% to 100%	99.76
Norfolk County, The Corporation of	Delhi Water Supply System	>95% to 100%*	99.72
Norfolk County, The Corporation of	Port Dover Water Treatment Plant	>95% to 100%	99.69
Norfolk County, The Corporation of	Port Rowan Water Treatment Plant	>95% to 100%*	100.00
Norfolk County, The Corporation of	Simcoe Well Supply	>95% to 100%	99.92
Norfolk County, The Corporation of	Waterford Well Supply	>95% to 100%*	99.62
North Bay, The Corporation of The City of	North Bay Water Treatment Plant	>90% to 95%	100.00
North Dumfries, The Corporation of The Township of	Ayr Well Supply	>85% to 90%	100.00
North Dumfries, The Corporation of The Township of	Branchton Well Supply	>95% to 100%	100.00
North Dumfries, The Corporation of The Township of	Lloyd Brown Distribution System	>95% to 100%	100.00
North Dumfries, The Corporation of The Township of	Roseville Well Supply	>95% to 100%	100.00
North Dundas, Township of	Chesterville Well Supply	>95% to 100%*	99.77
North Dundas, Township of	Winchester Well Supply	>95% to 100%*	100.00
North Glengarry, The Corporation of The Township of	Alexandria Water Treatment Plant	>90% to 95%	99.80

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (% Range)	2006-07 Water Quality (% of Tests Meeting Standards)
North Glengarry, The Corporation of The Township of	Glen Robertson Well Supply	>90% to 95%	100.00
North Grenville, The Corporation of The Township of	Kemptville Well Supply	>90% to 95%	99.85
North Huron, The Corporation of The Township of	Blyth Well Supply	>95% to 100%*	100.00
North Huron, The Corporation of The Township of	Humphrey Subdivision / Belgrave Well Supply	>95% to 100%*	100.00
North Huron, The Corporation of The Township of	Wingham Well Supply	>95% to 100%*	99.59
North Middlesex, Municipality of	North Middlesex (Lake Huron Area Water Supply) Distribution System	>85% to 90%	99.72
North Perth, Municipality of	Atwood Well Supply	>95% to 100%	100.00
North Perth, Municipality of	Bowman Court Subdivision Well Supply (Amalgamated into The Atwood Well Supply)	>95% to 100%	100.00
North Perth, Municipality of	Gowanstown Subdivision Well Supply	>95% to 100%	100.00
North Perth, Municipality of	Listowel Well Supply	>95% to 100%	100.00
North Perth, Municipality of	Molesworth Well Supply	>90% to 95%	100.00
North Perth, Municipality of	Smith Subdivision Well Supply (Amalgamated into The Atwood Well Supply)	>95% to 100%	100.00
North Shore, The Corporation of The Township of	Pronto East Subdivision Water Treatment Plant	>95% to 100%	96.55
North Shore, The Corporation of The Township of	Serpent River (The North Shore Township) Water Treatment Plant	>95% to 100%*	97.92
North Stormont, The Corporation of The Township of	Crysler Well Supply	>95% to 100%*	99.75
North Stormont, The Corporation of The Township of	Finch Well Supply	>95% to 100%*	99.42
North Stormont, The Corporation of The Township of	Moose Creek Well Supply	>95% to 100%*	99.42
Northeastern Manitoulin & The Islands, The Corporation of The Town of	Little Current Water Treatment Plant	>85% to 90%	99.51
Northeastern Manitoulin & The Islands, The Corporation of The Town of	Sheguiandah Water Treatment Plant	>90% to 95%	100.00
Northern Bruce Peninsula, The Corporation of The Municipality of	Lion's Head Water Treatment Plant	>95% to 100%*	99.77
Norwich, Township of	Norwich Well Supply	>90% to 95%	99.78
Norwich, Township of	Otterville - Springford Well Supply	>95% to 100%	99.61
Oakville, Town of	Oakville Water Treatment Plant	>95% to 100%*	99.81
Oil Springs, The Corporation of The Village of	Oil Springs Water Distribution System	>95% to 100%*	100.00
Oliver Paipoonge, The Corporation of The Municipality of	Rosslyn Village Subdivision Well Supply	>95% to 100%*	97.50
Opasatika, The Corporation of The Township of	Opasatika Well Supply	>95% to 100%	99.08
Orangeville, The Corporation of The Town of	Orangeville Well Supply	>95% to 100%	99.90
Orillia, The Corporation of The City of	Orillia Water Supply System	>80% to 85%	100.00
Oro-Medonte, The Corporation of The Township of	Canterbury Subdivision Well Supply	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Cedar Brook Subdivision Well Supply	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Craighurst Well Supply	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Harbourwood Well Supply	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Horseshoe Valley Subdivision Well Supply (Formerly Horseshoe Highlands Subdivision Well Supply)	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Maplewood Estates Well Supply	>95% to 100%*	100.00
Oro-Medonte, The Corporation of The Township of	Medonte Hills Well Supply	>95% to 100%*	99.74

* Drinking Water Systems that received a 100% inspection rating | ** Water quality data is not available as the system was inspected prior to being registered (required for one sampling) and three systems were officially registered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Oro-Medonte, The Corporation of The Township of	Robin Crest Well Supply	>95% to 100% *	99.74
Oro-Medonte, The Corporation of The Township of	Shanty Bay Well Supply	>95% to 100% *	100.00
Oro-Medonte, The Corporation of The Township of	Sugar Bush Well Supply	>95% to 100%	100.00
Oro-Medonte, The Corporation of The Township of	Warminster Well Supply	>95% to 100%	100.00
Oshawa, City of	Oshawa Water Treatment Plant	>95% to 100% *	99.91
Otonabee-South Monaghan, The Corporation of The Township of	Elgeti and Crystal Springs Subdivisions Well Supply	>90% to 95%	100.00
Otonabee-South Monaghan, The Corporation of The Township of	Keene Heights Subdivision Well Supply	>95% to 100%	100.00
Ottawa, The Corporation of The City of	Britannia Water Treatment Plant	>95% to 100%	99.45
Ottawa, The Corporation of The City of	Carp Well Supply	>95% to 100% *	100.00
Ottawa, The Corporation of The City of	Kings Park Well Supply	>95% to 100%	100.00
Ottawa, The Corporation of The City of	Lemieux Island Water Treatment Plant	>95% to 100% *	99.35
Ottawa, The Corporation of The City of	Munster Hamlet Well Supply	>95% to 100% *	100.00
Ottawa, The Corporation of The City of	Vars Well Supply	>95% to 100% *	100.00
Owen Sound, The Corporation of The City of	Owen Sound (Richard H. Neath) Water Treatment Plant	>85% to 90%	100.00
Parry Sound, The Corporation of The Town of	Parry Sound Water Treatment Plant	>80% to 85%	100.00
Pelham, The Corporation of The Town of	Pelham Distribution System	>95% to 100% *	99.84
Pembroke, The Corporation of The City of	Pembroke Water Treatment Plant	>80% to 85%	99.71
Penetanguishene, The Corporation of The Town of	Lepage Subdivision (Penetanguishene) Well Supply	>95% to 100% *	100.00
Penetanguishene, The Corporation of The Town of	Payette (Penetanguishene) Well Supply	>95% to 100%	100.00
Perth East, The Corporation of The Township of	Milverton Well Supply	>95% to 100%	100.00
Perth East, The Corporation of The Township of	Shakespeare (Miller Ave.) Well Supply	>95% to 100%	100.00
Perth South, The Corporation of The Township of	Sebringville (Black Creek Estates) Well Supply	>95% to 100%	99.32
Perth South, The Corporation of The Township of	St. Pauls Well Supply	>95% to 100%	98.62
Perth, The Corporation of The Town of	Perth Water Treatment Plant	>95% to 100%	98.93
Petawawa, The Corporation of The Town of	Petawawa Water Treatment Plant	>95% to 100%	99.75
Peterborough, City of	Peterborough Water Treatment Plant	>95% to 100% *	99.94
Petrolia, The Corporation of The Town of	Town of Petrolia Bright's Grove Water Treatment Plant	>95% to 100%	99.87
Pickle Lake, The Corporation of The Township of	Pickle Lake Well Supply	>95% to 100% *	100.00
Plummer Additional, The Corporation of The Township of	Plummer Additional Booster Pumping Station and Reservoir Distribution System	>95% to 100% *	100.00
Plympton-Wyoming, The Corporation of The Town of	Plympton-Wyoming (Lambton Area Water Supply) Distribution System	>95% to 100%	99.83
Point Edward, The Corporation of The Village of	Point Edward (Lambton Area Water Supply) Distribution System	>95% to 100%	100.00
Port Colborne, The Corporation of The City of	Port Colborne Water Treatment Plant	>95% to 100% *	100.00
Port Colborne, The Corporation of The City of	Port Colborne Distribution System	>95% to 100% *	99.44
Port Hope, The Corporation of The Municipality of	Port Hope (New) Water Treatment Plant	>95% to 100% *	99.90
Powassan, The Corporation of The Municipality of	Powassan Well Supply	>95% to 100%	100.00
Prescott, The Corporation of The Separated Town of	Prescott Water Treatment Plant	>95% to 100% *	99.82

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Regional Municipality (Municipality where the Drinking Water System is Located)	Drinking Water System Name	Risk of Inspection Rating (3% Rating)	Risk of Water Quality (% of Tests Meeting Standards)
Prince Edward, The Corporation of The County of	Ameliasburgh Hamlet Water Treatment Plant	>95% to 100%	98.81
Prince Edward, The Corporation of The County of	Consecon/Carrying Place Distribution System	>95% to 100%	98.82
Prince Edward, The Corporation of The County of	Fenwood Gardens/Rossmore Distribution System	>95% to 100%*	99.67
Prince Edward, The Corporation of The County of	Peats Point Subdivision Well Supply	>95% to 100%	100.00
Prince Edward, The Corporation of The County of	Picton Water Treatment Plant	>95% to 100%	99.26
Prince Edward, The Corporation of The County of	Wellington Water Treatment Plant	>95% to 100%*	99.59
Quinte West, The Corporation of The City of	Batawa Water Treatment Plant	>95% to 100%*	100.00
Quinte West, The Corporation of The City of	Bayside Water Treatment Plant	>85% to 90%	100.00
Quinte West, The Corporation of The City of	Frankford Water Treatment Plant	>95% to 100%*	100.00
Quinte West, The Corporation of The City of	Trenton Water Treatment Plant	>85% to 90%	99.54
Rainy River, The Corporation of The Town of	Rainy River Water Treatment Plant	>95% to 100%	100.00
Ramara, The Corporation of The Township of	Bayshore Village Subdivision Well Supply	>95% to 100%*	100.00
Ramara, The Corporation of The Township of	Brechin and Lagoon City Water Treatment Plant	>95% to 100%	100.00
Ramara, The Corporation of The Township of	Davy Drive Subdivision Well Supply	>95% to 100%*	100.00
Ramara, The Corporation of The Township of	Park Lane Subdivision Well Supply	>95% to 100%*	100.00
Ramara, The Corporation of The Township of	Somerset / Knob Hill Water Distribution System	>95% to 100%*	99.54
Ramara, The Corporation of The Township of	South Ramara Water Treatment Plant	>95% to 100%	100.00
Ramara, The Corporation of The Township of	Val Harbour Subdivision Well Supply	>95% to 100%	100.00
Red Lake, Municipality of	Golden Ward Water Treatment Plant	>95% to 100%*	100.00
Red Lake, Municipality of	Madsen Water Treatment Plant	>95% to 100%*	100.00
Red Lake, Municipality of	Red Lake Water Treatment Plant	>95% to 100%	100.00
Red Rock, The Corporation of The Township of	Red Rock Water Treatment Plant	>80% to 85%	100.00
Renfrew, The Corporation of The Town of	Renfrew Water Treatment Plant	>95% to 100%	100.00
Richmond Hill, The Corporation of The Town of	Richmond Hill Distribution System	>95% to 100%*	99.63
Russell, The Corporation of The Township of	Embrun-Russell-Marionville Well Supply	>95% to 100%*	99.90
Sables-Spanish Rivers, The Corporation of The Township of	Massey Water Treatment Plant	>95% to 100%	100.00
Sarnia, City of	Lambton Area Water Supply System	>95% to 100%*	99.69
Sarnia, City of	Sarnia (Lambton Area Water Supply) Distribution System	>95% to 100%*	99.95
Saugeen Shores, The Corporation of The Town of	Port Elgin Water Treatment Plant	>90% to 95%	100.00
Saugeen Shores, The Corporation of The Town of	Southampton Water Treatment Plant	>95% to 100%	99.83
Sault Ste. Marie, City of	Sault Ste. Marie Water Supply System	>95% to 100%*	100.00
Schreiber, The Corporation of The Township of	Schreiber Water Treatment Plant	>80% to 85%	100.00
Scugog, Township of	Blackstock Well Supply	>95% to 100%*	100.00
Scugog, Township of	Greenbank Well Supply	>95% to 100%*	100.00
Scugog, Township of	Port Perry Well Supply	>95% to 100%*	100.00
Severn, The Corporation of The Township of	Bass Lake Woodlands Well Supply	>90% to 95%	100.00
Severn, The Corporation of The Township of	Coldwater Well Supply	>95% to 100%	99.60
Severn, The Corporation of The Township of	Sandcastle Estates Water Treatment Plant	>95% to 100%	100.00
Severn, The Corporation of The Township of	Severn Estates Well Supply	>95% to 100%*	100.00
Severn, The Corporation of The Township of	Washago Water Treatment Plant	>90% to 95%	100.00

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Severn, The Corporation of The Township of	West Shore Water Treatment Plant	>95% to 100%	100.00
Shelburne, The Corporation of The Town of	Shelburne Well Supply	>80% to 85%	100.00
Sioux Lookout, The Corporation of The Municipality of	Hudson Water Treatment Plant	>95% to 100%*	99.01
Sioux Lookout, The Corporation of The Municipality of	Sioux Lookout Urban Water Treatment Plant	>95% to 100%*	100.00
Smith-Ennismore-Lakefield, The Corporation of The Township of	Lakefield Water Treatment Plant	>95% to 100%*	99.45
Smith-Ennismore-Lakefield, The Corporation of The Township of	Woodland Acres Subdivision Distribution System	>95% to 100%*	99.70
Smiths Falls, The Corporation of The Separated Town of	Smiths Falls Water Treatment Plant	>95% to 100%	99.50
Smooth Rock Falls, The Corporation of The Town of	Smooth Rock Falls Water Treatment Plant	>95% to 100%	100.00
South Bruce Peninsula, The Corporation of The Town of	Cammidge-Collins Well Supply	>90% to 95%	100.00
South Bruce Peninsula, The Corporation of The Town of	Fiddlehead Subdivision Well Supply	>95% to 100%	96.48
South Bruce Peninsula, The Corporation of The Town of	Forbes Subdivision Well Supply	>95% to 100%	98.41
South Bruce Peninsula, The Corporation of The Town of	Foreman Well Supply	>95% to 100%	99.28
South Bruce Peninsula, The Corporation of The Town of	Gremik Subdivision Well Supply	>95% to 100%	100.00
South Bruce Peninsula, The Corporation of The Town of	Huronwoods Well Supply	>90% to 95%	99.18
South Bruce Peninsula, The Corporation of The Town of	Robins Well Supply	>90% to 95%	98.37
South Bruce Peninsula, The Corporation of The Town of	Thomson Subdivision Well Supply	>95% to 100%	99.21
South Bruce Peninsula, The Corporation of The Town of	Trask Well Supply	>85% to 90%	94.44
South Bruce Peninsula, The Corporation of The Town of	Wiarton Water Treatment Plant	>90% to 95%	99.80
South Bruce Peninsula, The Corporation of The Town of	Winburk Subdivision Well Supply	>90% to 95%	97.64
South Bruce, The Corporation of The Municipality of	Mildmay Well Supply	>95% to 100%	100.00
South Bruce, The Corporation of The Municipality of	Teeswater Well Supply	>95% to 100%	99.79
South Dundas, The Corporation of The Township of	South Dundas Regional Water Treatment Plant	>90% to 95%	100.00
South Frontenac, Township of	Sydenham Water Treatment Plant	>90% to 95%	100.00
South Glengarry, The Corporation of The Township of	Glen Walter Water Treatment Plant	>95% to 100%	99.80
South Glengarry, The Corporation of The Township of	Lancaster Water Treatment Plant	>90% to 95%	100.00
South Glengarry, The Corporation of The Township of	Redwood Estates Well Supply	>85% to 90%	100.00
South Huron, The Corporation of The Municipality of	Exeter Water Supply System	>95% to 100%	99.48
South Huron, The Corporation of The Municipality of	Huron Park Distribution System	>95% to 100%*	100.00
South Huron, The Corporation of The Municipality of	Lake Huron Primary Area Water Supply	>95% to 100%	100.00
South Huron, The Corporation of The Municipality of	South Huron (Lake Huron Area Water Supply) Distribution System	>95% to 100%*	99.60
South River, The Corporation of The Village of	South River Water Treatment Plant	>95% to 100%*	100.00
South Stormont, The Corporation of The Township of	Long Sault/Ingleside Regional Water Treatment Plant	>90% to 95%	100.00
South Stormont, The Corporation of The Township of	Newington Well Supply	>95% to 100%	100.00
South Stormont, The Corporation of The Township of	St. Andrews/Rosedale Terrace Distribution System	>95% to 100%*	99.59
Southgate, The Corporation of The Township of	Dundalk Well Supply	>95% to 100%*	99.85
Southwest Middlesex, The Corporation of The Municipality of	Southwest Middlesex (West Elgin Area Water Supply) Distribution System	>95% to 100%	100.00
South-West Oxford, Township of	Beachville-Loweville Subdivision Well Supply	>95% to 100%*	100.00
South-West Oxford, Township of	Brownsville Well Supply	>90% to 95%	99.74

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Range)	2006-07 Water Quality (% of Tests Meeting Standards)
South-West Oxford, Township of	Dereham Centre Well Supply	>90% to 95%	100.00
South-West Oxford, Township of	Mount Elgin Well Supply	>95% to 100%	99.74
South-West Oxford, Township of	Sweaburg - Oxford Heights Subdivision Well Supply	>95% to 100%	100.00
Southwold, The Corporation of The Township of	Southwold (Elgin Area Water Supply) Distribution System	>95% to 100%	100.00
Spanish, The Corporation of The Town of	Spanish Well Supply	>85% to 90%	99.83
Springwater, The Corporation of The Township of	Anten Mills Well Supply	>95% to 100%*	100.00
Springwater, The Corporation of The Township of	Del Trend Subdivision Well Supply	>95% to 100%*	98.84
Springwater, The Corporation of The Township of	Elmvale Well Supply	>95% to 100%*	99.79
Springwater, The Corporation of The Township of	Hillsdale Well Supply	>95% to 100%	100.00
Springwater, The Corporation of The Township of	Midhurst Well Supply	>95% to 100%	99.45
Springwater, The Corporation of The Township of	Minesing Well Supply	>95% to 100%	99.69
Springwater, The Corporation of The Township of	Phelpston Well Supply	>95% to 100%	100.00
Springwater, The Corporation of The Township of	Snow Valley Highlands Well Supply	>95% to 100%	99.82
Springwater, The Corporation of The Township of	Sunnidale Road Well Supply	>95% to 100%	91.94
Springwater, The Corporation of The Township of	Vespra Downs Subdivision Well Supply	>95% to 100%*	100.00
St. Catharines, The Corporation of The City of	St. Catharines (Decew) Water Treatment Plant	>95% to 100%*	100.00
St. Catharines, The Corporation of The City of	St. Catharines Distribution System	>95% to 100%*	99.86
St. Clair, The Corporation of The Township of	St. Clair Township (Lambton Area Water Supply) Distribution System	>95% to 100%	100.00
St. Joseph, The Corporation of The Township of	Richards Landing Well Supply	>95% to 100%	100.00
St. Marys, The Corporation of The Separated Town of	St. Marys Well Supply	>90% to 95%	100.00
St. Thomas, The Corporation of The City of	St. Thomas (Elgin Area Water Supply) Distribution System	>95% to 100%*	99.93
Stirling-Rawdon, The Corporation of The Township of	Stirling Well Supply	>95% to 100%	100.00
Stratford, The Corporation of The City of	Stratford Well Supply	>85% to 90%	99.37
Strathroy-Caradoc, The Corporation of The Township of	Mount Brydges Well Supply	>95% to 100%	99.77
Strathroy-Caradoc, The Corporation of The Township of	Strathroy Well Supply	>95% to 100%	100.00
Tay, The Corporation of The Township of	Bay Berry Estates Well Supply	>95% to 100%	N/A**
Tay, The Corporation of The Township of	Midland Bay Woods Water Treatment Plant	>95% to 100%	N/A**
Tay, The Corporation of The Township of	Rope Subdivision Water Treatment Plant	>95% to 100%	99.31
Tay, The Corporation of The Township of	Victoria Harbour Water Treatment Plant	>95% to 100%*	99.71
Tay, The Corporation of The Township of	Waubaushene Water Treatment Plant	>95% to 100%	99.53
Tecumseh, The Corporation of The Town of	Tecumseh Water Treatment Plant	>95% to 100%	99.69
Tecumseh, The Corporation of The Town of	Tecumseh (Windsor Water Treatment Plant) Distribution System	>95% to 100%*	99.91
Tehkummah, The Corporation of The Township of	South Baymouth Water Treatment Plant	>95% to 100%*	100.00
Temagami, The Corporation of The Municipality of	Temagami North Water Treatment Plant	>90% to 95%	100.00
Temagami, The Corporation of The Municipality of	Temagami South Water Treatment Plant	>95% to 100%	100.00
Temiskaming Shores, City of	Dymond Well Supply	>90% to 95%	100.00
Temiskaming Shores, City of	Haileybury (Lake Timiskaming) Water Treatment Plant	>95% to 100%	99.48
Temiskaming Shores, City of	New Liskeard Well Supply	>90% to 95%	99.39

* Drinking Water Systems that achieved a 100% inspection rating ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Terrace Bay, The Corporation of The Township of	Terrace Bay Water Treatment Plant	>95% to 100%	99.35
Thames Centre, The Corporation of The Municipality of	Dorchester Well Supply	>95% to 100%	100.00
Thames Centre, The Corporation of The Municipality of	Thorndale Well Supply	>95% to 100%	100.00
The Blue Mountains, The Corporation of The Town of	Thornbury Water Treatment Plant	>95% to 100%	99.87
Thessalon, The Corporation of The Town of	Thessalon Water Treatment Plant	>95% to 100%	99.83
Thorold, The Corporation of The City of	Thorold (Port Robinson Area) Distribution System	>95% to 100% *	100.00
Thorold, The Corporation of The City of	Thorold (South End of Thorold) Distribution System	>95% to 100% *	100.00
Thorold, The Corporation of The City of	Thorold Distribution System	>95% to 100% *	100.00
Thunder Bay, The Corporation of The City of	Thunder Bay (Bare Point Road) Water Treatment Plant	>95% to 100%	99.81
Thunder Bay, The Corporation of The City of	Thunder Bay (Loch Lomond) Water Treatment Plant	>90% to 95%	99.70
Tillsonburg, Town of	Tillsonburg Well Supply	>90% to 95%	99.88
Timmins, The Corporation of The City of	Timmins (Mattagami) Water Treatment Plant	>90% to 95%	99.90
Timmins, The Corporation of The City of	Timmins (Shaw Township) Well Supply	>95% to 100%	99.78
Tiny, The Corporation of The Township of	Bluewater Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Cook's Lake Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Georgian Bay Estates Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Georgian Highlands Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Georgian Sands Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Lafontaine Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Lefaive Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Pennorth Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Perkinsfield Well Supply	>95% to 100%	99.77
Tiny, The Corporation of The Township of	Rayko Water System Well Supply	>95% to 100% *	99.14
Tiny, The Corporation of The Township of	Sand Castle Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Sawlog Bay Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Tee Pee Point Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Thunder Bay Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Vanier Woods Well Supply	>95% to 100% *	100.00
Tiny, The Corporation of The Township of	Whip-Poor-Will II Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Woodland Beach Well Supply	>95% to 100%	100.00
Tiny, The Corporation of The Township of	Wyevale Well Supply	>95% to 100%	99.82
Toronto, City of	F. J. Horgan Water Treatment Plant	>55% to 60%	99.94
Toronto, City of	Toronto (Island) Water Treatment Plant	>85% to 90%	99.97
Toronto, City of	Toronto (R. L.Clark) Water Treatment Plant	>85% to 90%	99.90
Toronto, City of	Toronto (R.C.Harris) Water Treatment Plant	>85% to 90%	99.84
Toronto, City of	Toronto (R.C.Harris) Water Treatment Plant (Toronto Distribution System)	>90% to 95%	99.84
Trent Hills, The Corporation of The Municipality of	Campbellford Water Treatment Plant	>95% to 100% *	99.19
Trent Hills, The Corporation of The Municipality of	Hastings Water Treatment Plant	>95% to 100% *	99.76
Trent Hills, The Corporation of The Municipality of	Warkworth Water Treatment Plant	>95% to 100% *	100.00
Tweed, The Corporation of The Municipality of	Tweed Well Supply	>90% to 95%	100.00

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Uxbridge, Township of	Uxbridge Well Supply	>95% to 100%*	99.90
Val Rita-Harty, The Corporation of The Township of	Val Rita Well Supply	>95% to 100%*	100.00
Vaughan, The Corporation of The City of	Kleinburg Well Supply	>95% to 100%*	100.00
Vaughan, The Corporation of The City of	Kleinburg Distribution System	>90% to 95%	100.00
Vaughan, The Corporation of The City of	Vaughan (Toronto Water) Distribution System	>90% to 95%	99.92
Vaughan, The Corporation of The City of	York Distribution System	>95% to 100%*	100.00
Warwick, The Corporation of The Township of	Warwick (Lambton Area Water Supply) Distribution System	>95% to 100%	100.00
Wasaga Beach, The Corporation of The Town of	Wasaga Beach Well Supply	>95% to 100%*	100.00
Waterloo, City of	Kitchener Well Supply	>95% to 100%	99.85
Waterloo, City of	Maryhill Village Heights Well Supply	>95% to 100%*	100.00
Waterloo, City of	Waterloo Well Supply	>95% to 100%	100.00
Waterloo, City of	Waterloo Distribution System	>90% to 95%	99.92
Welland, The Corporation of The City of	Welland Water Treatment Plant	>95% to 100%*	100.00
Welland, The Corporation of The City of	Welland Distribution System	>90% to 95%	99.82
Wellesley, The Corporation of The Township of	Linwood Well Supply	>90% to 95%	100.00
Wellesley, The Corporation of The Township of	St. Clements Well Supply	>95% to 100%	100.00
Wellesley, The Corporation of The Township of	Wellesley Well Supply	>95% to 100%	100.00
Wellington North, The Corporation of The Township of	Arthur Well Supply	>95% to 100%*	100.00
Wellington North, The Corporation of The Township of	Mount Forest Well Supply	>95% to 100%*	100.00
West Elgin, The Corporation of The Municipality of	West Elgin Water Treatment Plant	>90% to 95%	99.71
West Grey, The Corporation of The Township of	Durham Well Supply	>95% to 100%*	100.00
West Grey, The Corporation of The Township of	Neustadt Well Supply	>95% to 100%*	100.00
West Lincoln, The Corporation of The Township of	Smithville (Grimsby Water Treatment Plant) Distribution System	>95% to 100%*	99.77
West Nipissing, The Corporation of The Municipality of	Sturgeon Falls Water Treatment Plant	>95% to 100%	99.44
West Nipissing, The Corporation of The Municipality of	Verner Water Treatment Plant	>95% to 100%	100.00
West Perth, The Corporation of The Municipality of	Mitchell Well Supply	>80% to 85%	99.87
Westport, The Corporation of The Village of	Westport Well Supply	>90% to 95%	100.00
Whitby, Town of	Whitby Water Treatment Plant	>95% to 100%*	99.92
Whitchurch-Stouffville, The Corporation of The Town of	Ballantrae/Musselman's Well Supply	>95% to 100%*	100.00
Whitchurch-Stouffville, The Corporation of The Town of	Ballantrae-Musselman Lake Distribution System	>95% to 100%*	100.00
Whitchurch-Stouffville, The Corporation of The Town of	Stouffville Well Supply	>95% to 100%	100.00
Whitchurch-Stouffville, The Corporation of The Town of	Stouffville Distribution System	>95% to 100%*	99.77
White River, The Corporation of The Township of	White River Water Supply System (Formerly White River Well Supply)	>90% to 95%	99.80
Whitewater Region, Township of	Beachburg Well Supply	>90% to 95%	100.00
Whitewater Region, Township of	Cobden Water Treatment Plant	>75% to 80%	100.00
Whitewater Region, Township of	Haley Well Supply	>70% to 75%	100.00
Wilmot, The Corporation of The Township of	Foxboro Well Supply	>65% to 70%	100.00
Wilmot, The Corporation of The Township of	Mannheim Village Well Supply	>90% to 95%	100.00

* Drinking Water Systems that achieved a 100% inspection rating ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 1: Municipal Residential Drinking Water System 2006-07 Inspection Ratings and Water Quality Results (Percentage of Tests Meeting Standards)

Municipal Location (Municipality where the Drinking Water System is Located)	Drinking Water System Name	2006-07 Inspection Rating (5% Bands)	2006-07 Water Quality (% of Tests Meeting Standards)
Wilmot, The Corporation of The Township of	Mannheim Village Distribution System	>95% to 100%	99.59
Wilmot, The Corporation of The Township of	New Dundee Well Supply	>75% to 80%	100.00
Wilmot, The Corporation of The Township of	New Dundee Distribution System	>95% to 100%*	100.00
Wilmot, The Corporation of The Township of	New Hamburg-Baden Well Supply	>70% to 75%	100.00
Wilmot, The Corporation of The Township of	New Hamburg-Baden Distribution System	>90% to 95%	99.81
Wilmot, The Corporation of The Township of	Shingletown Well Supply	>90% to 95%	100.00
Wilmot, The Corporation of The Township of	Shingletown Distribution System	>95% to 100%*	100.00
Wilmot, The Corporation of The Township of	St. Agatha Well Supply	>90% to 95%	100.00
Wilmot, The Corporation of The Township of	St. Agatha Distribution System	>90% to 95%	100.00
Wilmot, The Corporation of The Township of	St. Agatha/Sararas Well Supply	>95% to 100%*	100.00
Wilmot, The Corporation of The Township of	St. Agatha/Swartzentruber Well Supply	>95% to 100%*	100.00
Windsor, The Corporation of The City of	Windsor Water Treatment Plant	>95% to 100%	99.85
Woodstock, City of	Woodstock Well Supply	>90% to 95%	99.84
Woolwich, The Corporation of The Township of	Breslau (Elroy Acres) Distribution System	>95% to 100%	100.00
Woolwich, The Corporation of The Township of	Conestoga Plains Distribution System	>95% to 100%*	100.00
Woolwich, The Corporation of The Township of	Conestogo Golf Distribution System	>95% to 100%*	100.00
Woolwich, The Corporation of The Township of	Conestogo Golf Well Supply	>95% to 100%	100.00
Woolwich, The Corporation of The Township of	Conestogo Plains Well Supply	>95% to 100%	100.00
Woolwich, The Corporation of The Township of	Heidelberg Well Supply	>95% to 100%	100.00
Woolwich, The Corporation of The Township of	Heidelberg (Woolwich Township) Distribution System	>90% to 95%	100.00
Woolwich, The Corporation of The Township of	Maryhill Well Supply	>90% to 95%	100.00
Woolwich, The Corporation of The Township of	Maryhill Distribution System	>95% to 100%*	99.57
Woolwich, The Corporation of The Township of	Maryhill Village Heights Distribution System	>95% to 100%*	100.00
Woolwich, The Corporation of The Township of	St. Jacobs/Elmira Distribution System	>95% to 100%	99.83
Woolwich, The Corporation of The Township of	West Montrose Well Supply	>95% to 100%	100.00
Woolwich, The Corporation of The Township of	West Montrose Distribution System	>95% to 100%*	100.00
Zorra, Township of	Embro Well Supply	>90% to 95%	100.00
Zorra, Township of	Lakeside Well Supply	>95% to 100%	99.74
Zorra, Township of	Thamesford Well Supply	>95% to 100%	100.00

* Drinking Water Systems that achieved a 100% inspection rating | ** Water quality data is not available as one system was inspected prior to being registered (required for data reporting) and three systems were officially unregistered early in the reporting year.

Appendix 2-A: Summary of Municipal Residential Drinking Water Systems Receiving Contravention Orders in 2006-07

Drinking Water System Owner	Drinking Water System Name	Date Order Issued	Order Synopsis
Centre Hastings, The Corporation of the Municipality of	Madoc Well Supply	February 1, 2007	■ Ensure that primary and secondary disinfection is achieved at all times. ■ Ensure that treatment equipment is installed in accordance with the Certificate of Approval. ■ Ensure that the performance of the disinfection equipment is recorded. ■ Submit an application for approval of works to Ministry of the Environment. ■ Ensure that alarms for the water quality monitoring equipment is installed at approved locations.
Cobalt, The Corporation of the Town of	Cobalt Water Treatment Plant	March 2, 2007	■ Ensure that samples are taken and tested for sodium and fluoride.
Cochrane, The Corporation of the Town of	Cochrane Well Supply	December 7, 2006	■ Ensure that primary and secondary disinfection is achieved at all times. ■ Ensure that unusual or abnormal conditions observed at the facility are recorded. ■ Ensure that adverse water quality incidents are reported to the Spills Action Centre and Medical Officer of Health.
Greenstone, The Corporation of the Municipality of	Nakina Well Supply	June 15, 2007	■ Ensure that primary disinfection is achieved at all times. ■ Develop and implement a well head protection plan.
Ignace, The Corporation of the Township of	Ignace Well Supply	August 30, 2006	■ Ensure appropriately trained operators are designated as Operators in Charge. ■ Ensure that all required repairs are conducted by a certified person. ■ Ensure an appropriately trained operator is designated as the Overall Responsible Operator.
Innisfil, The Corporation of the Town of	Goldcrest Well Supply	June 29, 2006	■ Ensure that alarms for the water quality monitoring equipment is installed at approved locations.
Kawartha Lakes, The Corporation of the City of	King's Bay Well Supply	January 25, 2007	■ Ensure that records of daily water takings are completed in accordance with the Permit To Take Water. ■ Provide written notification as to how ground water levels will be monitored in accordance with the Permit To Take Water.
Kingston, The Corporation of the City of	Kingston West Water Treatment Plant	September 13, 2006	■ Notify Ministry of the Environment's Spills Action Centre and the Medical Officer of Health whenever chlorine residual is less than 0.05 mg/L. ■ Develop and implement a procedure for flushing hydrants and chlorine residual sampling during flushing periods. ■ Train staff on the approved hydrant flushing procedure.

Appendix 2-A: Summary of Municipal Residential Drinking Water Systems Receiving Contravention Orders in 2006-07

Drinking Water System Owner	Drinking Water System Name	Date Order Issued	Order Synopsis
Leeds and Grenville Housing Corporation	Miller Manor Apartments Well Supply	April 10, 2007	■ Ensure that lead samples are collected at the appropriate locations and frequency. ■ Take all steps necessary to ensure that all analyzers are properly evaluated, maintained and calibrated. ■ Ensure that primary and secondary disinfection is achieved at all times. ■ Ensure all required information is recorded in logbooks. Operators must be unambiguously identified in logbook entries. ■ Ensure that test results generated by water quality analyzers are examined within 72 hours after the tests are conducted in accordance with Ontario Regulation 170. ■ Measure and record the disinfection residual at least twice per week as required for the distribution system. ■ Ensure that adverse water quality incidents are reported to the Spills Action Centre and Medical Officer of Health. ■ Ensure that corrective actions are taken and/or take any other steps as advised by the Medical Officer of Health. ■ Ensure that all required chlorine residual testing is conducted and recorded. ■ Conduct and record chlorine residuals at the same location that microbiological samples were obtained. ■ Ensure that all microbiological water quality monitoring is being conducted as required by the legislation. ■ Ensure that all physical/chemical water quality monitoring is being conducted as required by the legislation.
Marmora & Lake, The Corporation of the Municipality of	Marmora Water Treatment Plant	February 7, 2007	■ Establish a Standard Operating Procedure regarding the use of remotely operated continuous monitoring equipment. ■ Ensure that operators are trained in the approved remote monitoring Standard Operating Procedure.

Appendix 2-A: Summary of Municipal Residential Drinking Water Systems Receiving Contravention Orders in 2006-07

Drinking Water System Owner	Drinking Water System Name	Date Order Issued	Order Synopsis
Mattawa, The Corporation of the Town of	Mattawa Well Supply	January 12, 2007	■ Revise the 2005 Annual Report to included all required laboratory analysis results, corrective actions and maintenance information. ■ Ensure that all required documents are made available free of charge at a location accessible to the public. ■ Develop and implement a sampling plan for all microbiological, chemical and physical parameters as required by Ontario Regulation 170.
Moosonee, The Corporation of the Town of	Moosonee Water Treatment Plant	November 2, 2006	■ Operations manuals must meet the requirements of the Certificate of Approval. ■ Ensure an appropriately trained operator is designated as the Overall Responsible Operator.
Schreiber, The Corporation of the Township of	Schreiber Water Treatment Plant	August 11, 2007	■ Ensure that standby equipment is readily available and operational. ■ Assess compliance with Permit to Take Water, create a plan to address permit exceedances.
Shelburne, The Corporation of the Town of	Shelburne Well Supply	December 28, 2006	■ Ensure that adverse water quality incidents are reported to the Spills Action Centre and Medical Officer of Health. ■ Ensure that operators are provided with operations manuals. ■ Ensure that primary and secondary disinfection is achieved at all times. ■ Ensure all required information is recorded in logbooks. ■ Provide a report detailing a plan for implementing additional operator training.
Temiskaming Shores, City of	Haileybury (Lake Timiskaming) Water Treatment Plant	February 5, 2007	■ Provide reasons as to why the Certificate of Approval was unavailable to operators.
Toronto, City of	Toronto (Island) Water Treatment Plant	October 19, 2006	■ Submit an application for approval of works to the Ministry of the Environment.

Appendix 2-B: Summary of Local Services Board Drinking Water Systems Receiving Contravention Orders in 2006-07

Drinking Water System Owner	Drinking Water System Name	Date Order Issued	Order Synopsis
Foleyet Local Services Board	Foleyet Water Treatment Plant	April 25, 2007	■ Ensure that the drinking water system is maintained in a fit state of repair while in service. ■ Hire an engineer to assess disinfection requirements; ■ Ensure that operators are trained in disinfection procedures. ■ Prepare an action plan to address operator training and maintenance of the drinking water system.
Thorne Local Services Board	Thorne Water Treatment Plant	December 7, 2006	■ Ensure an appropriately trained operator is designated as the Overall Responsible Operator.
Redditt Local Services Board	Redditt Water Treatment Plant	July 12, 2007	■ Ensure that primary and secondary disinfection is achieved at all times. ■ Ensure that all microbiological water quality monitoring is being conducted as required by the legislation.

Appendix 2-C: Summary of Municipal Residential Drinking Water Systems Receiving Preventative Orders in 2006-07

Drinking Water System Owner	Drinking Water System Name	Date Order Issued	Order Synopsis
Deep River, The Corporation of the Township of	Deep River Water Treatment Plant	January 2, 2007	■ Prepare a contingency plan and monitoring plan to address the integrity of the clearwell.
		February 19, 2007	■ Hire an engineer to assess the clearwell and provide recommended actions.
		March 30, 2007	■ Implement recommended actions of the engineer.
Kawartha Lakes, The Corporation of the City of	Sonya Village Subdivision Well Supply	March 29, 2007	■ Disconnect Well #3 from the treatment process until a ground water study has been conducted.
	Kinmount Downtown Water Treatment Plant	May 8, 2006	■ Relief granted from the reporting of turbidity. Provide a weekly summary of maximum daily turbidity.
		June 22, 2006	■ Relief granted from the reporting of turbidity. Provide a weekly summary of maximum daily turbidity.
Temiskaming Shores, City of	New Liskeard Well Supply	March 30, 2007	■ Ensure that the rated capacity of the water treatment plant is not exceeded. ■ Hire an engineer to assess disinfection procedures. ■ Submit an action plan for the design, construction and commissioning of a new waste water management system.

Appendix 2-D: Summary of Licensed Drinking Water Testing Laboratories Receiving Contravention Orders in 2006-07

Municipal Location	Laboratory Name	Date Order Issued	Order Synopsis
Kingston, City of	Caduceon Environmental Laboratories	March 7, 2007	Discrepancies found between the final test report results sent to customers and the test results submitted to the Ministry of the Environment. ■ Investigate the cause of the discrepancies. ■ Identify and resolve the errors relating to rounding test results. ■ Delete all affected results that have been sent to the Ministry and re-submit corrected results electronically.
Ottawa, The Corporation of the City of	Caduceon Environmental Laboratories	March 13, 2007	Discrepancies found between the final test report results sent to customers and the test results submitted to the Ministry of the Environment. ■ Investigate the cause of the discrepancies. ■ Identify and resolve the errors relating to rounding test results. ■ Delete all affected results that have been sent to the Ministry and re-submit corrected results electronically.
Peterborough, City of	Caduceon Environmental Laboratories	March 5, 2007	Discrepancies found between the final test report results sent to customers and the test results submitted to the Ministry of the Environment. ■ Investigate the cause of the discrepancies. ■ Identify and resolve the errors relating to rounding test results. ■ Delete all affected results that have been sent to the Ministry and re-submit corrected results electronically.
Toronto, City of	Ministry of the Environment, Laboratory Services Branch	October 4, 2006	■ Ensure drinking water samples are not analyzed beyond the recommended holding time. ■ Comply with requirements relating to sample handling. ■ Comply with approved documents.
Windsor, The Corporation of the City of	Caduceon Environmental Laboratories	March 14, 2007	Discrepancies found between the final test report results sent to customers and the test results submitted to the Ministry of the Environment. ■ Investigate the cause of the discrepancies. ■ Identify and resolve the errors relating to rounding test results. ■ Delete all affected results that have been sent to the Ministry and re-submit corrected results electronically.

Appendix 3-A: Summary of Municipal Residential Drinking Water System Convictions - April 1, 2006 to March 31, 2007

Owner of Drinking Water System	System Name	Synopsis	Sworn Date	Conviction Date	Fine
Adjala-Tosorontio, The Corporation of the Township of	Lisle Well Supply	Failure to maintain alarms.	March 8, 2006	June 27, 2006	$12,000
Barrie, The Corporation of the City of	Barrie Well Supply	Failure to report adverse result of a drinking water test.	August 25, 2005	July 12, 2006	$2,000
Bonnechere Valley, The Corporation of the Municipality of	Eganville Water Treatment Plant	Failure to report adverse drinking water test result. Failure to maintain turbidity alarms.	January 10, 2006	May 1, 2006	$11,000
Bradford West Gwillimbury, The Corporation of the Town of	Bradford/Bondhead Well Supply	Failure to report adverse result of a drinking water test.	September 14, 2006	February 5, 2007	$7,500
Chatsworth, The Corporation of the Township of	Walter's Falls Well Supply	Failure to report that improperly disinfected water was directed to drinking water system.	November 22, 2006	January 22, 2007	$5,000
Dubreuilville, The Corporation of the Township of	Dubreuilville Well Supply	Failure to review continuous monitoring results within 72 hours. Operate a water treatment works in contravention of a condition of the Certificate of Approval.	March 6, 2006	October 31, 2006	$12,000
East Garafraxa, The Corporation of the Township of	Marsville Subdivision Well Supply	Operate a water treatment works in contravention of a condition of the Certificate of Approval.	June 1, 2006	August 16, 2006	$2,500
East Gwillimbury, The Corporation of the Town of	Sharon Distribution System Queensville Distribution System Holland Landing Distribution System (Amalgamated to Holland - Queensville - Sharon Distribution System)	Failure to keep test records of drinking water system sample test results.	June 12, 2006	September 15, 2006	$3,500
Grey Highlands, The Corporation of the Municipality of	Kimberley-Amik-Talisman Well Supply	Insufficient sampling of drinking water and failure to take corrective action following adverse results.	March 28, 2006	October 4, 2006	$4,000

Appendix 3-A: Summary of Municipal Residential Drinking Water System Convictions - April 1, 2006 to March 31, 2007

Owner of Drinking Water System	System Name	Synopsis	Sworn Date	Conviction Date	Fine
Haldimand, The Corporation of the County of	Nanticoke and Trunk Main Water Treatment Plant	Operate a water treatment works in contravention of a condition of the Certificate of Approval.	February 27, 2006	March 23, 2007	$7,000
Kawartha Lakes, The Corporation of the City of	Highview Acres Well Supply (Amalgamated into the Birchpoint Estates Well Supply)	Failure to collect required samples in contravention of a condition of the Certificate of Approval.	June 2, 2005	May 26, 2006	$5,000
Kawartha Lakes, The Corporation of the City of	Lindsay Water Treatment Plant	Failure to report adverse drinking water test result. Failure to maintain turbidity alarms.	March 13, 2006	May 26, 2006	$10,000
Kawartha Lakes, The Corporation of the City of	Norland Water Treatment Plant	Failure to report adverse result of a drinking water test.	March 13, 2006	May 26, 2006	$5,000
Kawartha Lakes, The Corporation of the City of	Sturgeon Point Water Treatment Plant (the system has since fully fragmented into private individual systems)	Insufficient sampling of drinking water.	May 1, 2006	May 26, 2006	$5,000
Kenora, The Corporation of the City of	Kenora Area Water Treatment Plant	Operate a water treatment works in contravention of a condition of the Certificate of Approval.	January 4, 2006	September 7, 2006	$1,500
Latchford, The Corporation of the Town of	Latchford Water Treatment Plant	Failure to comply with the terms of a Provincial Officer Order.	May 29, 2006	January 18, 2007	$2,000
Lucan Biddulph, The Corporation of the Township of	Granton Well Supply (Amalgamated into the Lucan Biddulph Distribution System)	Insufficient operator training, failure to take required water tests.	January 3, 2006	July 12, 2006	$15,000
Michipicoten, The Corporation of the Township of	Michipicoten River Village Well Supply	Failure to review continuous monitoring results within 72 hours. Operate a water treatment works in contravention of a condition of the Certificate of Approval.	March 6, 2006	October 31, 2006	$5,000

Appendix 3-A: Summary of Municipal Residential Drinking Water System Convictions - April 1, 2006 to March 31, 2007

Owner of Drinking Water System	System Name	Synopsis	Sworn Date	Conviction Date	Fine
Smiths Falls, The Corporation of the Separated Town of	Smiths Falls Water Treatment Plant	Failing to ensure that certified operators were used to maintain monitoring equipment.	October 5, 2005	June 6, 2006	$17,500
St. Clair, The Corporation of the Township of	St. Clair Township (Lambton Area Water Supply) Distribution System	Failure to report adverse result of a drinking water test.	November 28, 2006	February 9, 2007	$2,500
Welland, The Corporation of the City of	Welland Distribution System	Insufficient operator training.	August 21, 2006	December 14, 2006	$12,000
White River, The Corporation of the Township of	White River Well Supply (Currently White River Water Supply System)	Failure to comply with the terms of a Provincial Officer Order.	September 25, 2006	December 13, 2006	$7,000
				Total	$154,000

Appendix 3-B: Summary of Licensed Drinking Water Testing Laboratory Convictions - April 1, 2006 to March 31, 2007

Facility Owner	Synopsis	Sworn Date	Conviction Date	Fine
Maxxam Analytics Inc.	Failure to report adverse result of a drinking water test at the London facility.	February 27, 2006	June 5, 2006	$28,000
Maxxam Analytics Inc.	Failure to report adverse result of a drinking water test at the London facility.	February 27, 2006	June 5, 2006	$26,000
			Total	$54,000

Appendix 3-C: Summary of Licensed Drinking Water Testing Laboratory and Municipality Convictions - April 1, 2006 to March 31, 2007

Facility Owner	System Name	Synopsis	Sworn Date	Conviction Date	Fine
Enwin Utilities Ltd.	Enwin Laboratories Water Research Centre	Failure to report adverse result of a drinking water test.	November 25, 2003	June 22, 2006	$14,000
Windsor Utilities Commission	Windsor Water Treatment Plant				$14,000
				Total	$28,000

Appendix 4: Examples of Health Related Chemical Drinking Water Quality Standards.

Chemical	Standard as per O. Reg. 169/03	Description
Antimony	0.006 mg/L	Rarely detected from natural sources in water. Short-term exposures to high levels can lead to increased blood cholesterol and decreased blood glucose, as well as nausea, vomiting and diarrhea.
Arsenic	0.025 mg/L based on a lifetime of exposure	A known carcinogen that can pose a potential health risk if the level in the water supply exceeds the standard. Most recorded exceedances are one-time events. Can be found naturally in both ground and surface water.
Barium	1.0 mg/L	Commonly found in hard water but seldom at levels above the standard. Small exceedances are not expected to cause human health impacts. Levels higher than 10 mg/L have been linked with high blood pressure.
Benzo[A]pyrene	0.00001 mg/L based on a lifetime of exposure	Formed during the incomplete burning of natural compounds that contain carbon. One-time exceedances are not uncommon and are not expected to threaten human health.
Bromate	0.010 mg/L	May be formed during the disinfection of drinking water using ozone or a combination of ozone and hydrogen peroxide. Intrusion of road salt into surface water sources may also result in the presence of bromate in drinking water. Short-term exceedances are not likely to lead to adverse health impacts.
Chromium	0.05 mg/L	An essential mineral that is not produced by the body and must be obtained from the diet. One form – hexavalent chromium – is acutely toxic at levels exceeding 25 mg/L. It is most commonly produced by industrial processes. Short-term exposure to low level exceedances of chromium above the standard are not expected to cause human health impacts.
Fluoride	1.5 mg/L	Some areas in Ontario have naturally occurring high levels in drinking water. Where levels exceed 2.4 mg/L, the Ministry of Health and Long-Term Care recommends that the local Medical Officer of Health raise public and professional awareness to control excessive exposure from other sources. May be added to drinking water supplies to control tooth decay, with a recommended level of 0.5 - 0.8 mg/L.
Lead	0.01 mg/L based on a life-time of exposure	Typically enters drinking water from corrosion of pipes, solder, and plumbing fixtures. Ingestion should be avoided, particularly by pregnant women and young children, who are most susceptible. Ontario has introduced new regulations to monitor lead in drinking water in facilities where children are likely to be exposed. Municipalities are required to conduct monitoring programs for corrosion control and take appropriate action ranging from consumer education to lead line replacements.
Nitrates: Nitrates, Nitrogen (Nitrate + Nitrite)	Based on a lifetime of exposure: 10 mg/L for nitrate (as nitrogen) 1.0 mg/L for nitrite (as nitrogen) 10 mg/L nitrate+nitrite (as nitrogen)	Can be present in source water as a result of decaying plant and animal material, contamination by agricultural fertilizers, sewage and naturally occurring soluble nitrogen compounds. Short-term exceedances are not uncommon. In areas where nitrate levels are above the standard, the public is informed of the potential dangers of giving the water to infants.
Nitrosodimethylamine (NDMA)	0.000009 mg/L	Although industrial use has declined, can be formed by the reaction between nitrites (found in food) and stomach acid. May also be a by-product when chloramination is used for the disinfection of water. Short-term exceedances are not a cause for concern.
Selenium	0.01 mg/L	Presence in drinking water can almost always be attributed to natural background. Generally accepted as a required trace element for humans and animals. Short-term exceedances are not expected to cause human health impacts.
Trichloroethylene (TCE)	0.005 mg/L	Ontario revised the standard for TCE by adopting a lower value of 0.005 mg/L in June, 2006. This was the result on new scientific information of the toxicity of TCE. The levels at which exceedences were reported are not a cause for concern in the short-term but should be addressed by the municipality.
Trihalomethanes (THMs)	0.10 mg/L as a running average of quarterly samples	By-products of drinking water disinfection through chlorination. Drinking water systems that consistently exceed the standards are required to take corrective action to reduce THM formation. Short-term exceedances of THMs are not expected to result in human health risk.
Uranium	0.02 mg/L	Normally present at low levels in rock, soil and water. Short-term exceedances are not considered to result in human health risks.

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